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OF THE

ALUMNÆ ASSOCIATION

OF THE

WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA

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CONTENTS

List of Presidents 2
Officers 5
Censors 5
Committees 6
Life Members 7
Members 7
Honorary Members 21
Honorary Members—In Memoriam 22
Associate Members 22
In Memoriam 23
Information for Members 29
Minutes of Forty-first Annual Meeting 31
Report of Recording Secretary 31
Report of Corresponding Secretary 32
Report of Treasurer 32
Report of Auditors 32
Report of Executive Committee 33
Report of Committee on Fellowship 33
Report of Library Committee 33
Report of Committee on Necrology 34
Report of Entertainment Committee 38
Report of Board of Censors 39
Report of Alumnæ Representative 39
Report of Publicity Committee 40
Report of Campaign Committee 41
Report of Committee on Revision of Constitution and By-Laws . . 46
Preliminary Report of Alumnæ Fellow 48
Report of Alumnæ Fellow 49
Report of Graduate Council 52
Report of Elections 54
Nominating Committee for 1916–17 54
Presentation of $500 by Graduate Council 54
Report on the E. E. Musson Memorial Fund 55
Abstract of Letters from Dr. Polk, of China 55
Report on Woman's Medical College of Pennsylvania 58

PAPERS

President's Address 63
Correlated Menstrual Changes in Ovary and Endometrium. By DR. CATHARINE MACFARLANE 67
Peribronchial Infiltration of the Lung and its Bearing upon the Prognosis of a Case. By DR. MARY E. LAPHAM 73
Do Women Eat Enough? By DRS. MARTHA TRACY and CAROLINE CROASDALE 77
A Study of the Relation to Tumor Growth of Factors Influencing Growth and Nutrition. By DR. ELLEN P. CORSON-WHITE . . 87
The Value of the Roentgen Diagnosis, for the General Practitioner, in Gastro-intestinal Diseases. By DR. GISELA VON POSWIK . . . 89
Influenza Epidemic of 1889 and 1890. By DR. ELLEN E. BROWN . . 93
Influenza Epidemic of 1915 and 1916. By DR. ELFIE R. GRAFF . . 97
Report of Case of Meningitis, Probably of Influenzal Origin. By DR. JULIA HARDIN 103
Health Insurance. By MISS BETSY LIBBY 106
The Unmarried Mother as a Social Problem. By MISS GERTHA WILLIAMS 113
Prenatal Care as Conducted in the Woman's Hospital and West Philadelphia Hospital for Women. By DR. LIDA STEWART-COGILL . 123
Prenatal Care as Conducted in the College Hospital. By DR. ALICE WELD TALLANT 126

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1916–1917

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BOULTON, ELEANORE F. . .	P. O. Box 638, Philadelphia.	1900
BROWN, MARY	Swarthmore, Pa.	1892
BUTLER, MARGARET F. . .	1831 Chestnut St., Philadelphia.	1894
GASTON, MARY E.	Somerville, N. J.	1888
JENKS-**Southren**, JANE M. . .	P. O. Box 898, Philadelphia.	1889
JONES, ELEANOR C. . . .	1531 N. 15th St., Philadelphia.	1887
LAWRENCE, N. LOUISE . .	409 Fountain Court, Louisville, Ky.	1896
LEWIS, HARRIET M. . . .	118 Spring St., Portland, Me.	1884
LUKENS, ANNA	485 Central Park, West, N.Y.City.	1870
MOORE-**Canavan**, MYRTELLE .	Boston, Mass.	1905
PECK, ELIZABETH L. . . .	4113 Walnut St., Philadelphia.	1885
PURNELL, CAROLINE M. . .	132 S. 18th St., Philadelphia.	1887
ROSE, ELISE	1709 Pine St., Philadelphia.	1914
SHOLLY-**Knights**, AGNES . .	Shamokin, Pa.	1897
SLAUGHTER-**Morton**, ROSALIE .	Hotel Lenore, 701 Madison Ave., N. Y.	1897
WILCOX, MARY R.	Cynwyd, Pa.	1891

MEMBERS

Name.	Address.	Class
ABBEY, CHARLOTTE	204 S. 7th St., Philadelphia.	1887
ACOSTA-**Sison**, HONORIA . .	1002 Taft Ave., Manila, P. I.	1909
ADAMS-**MacLachlan**, JEANNIE S.	Perrysville, R. D. 1, Pa.	1891
ALLEN, MARY E.	137 N. 21st St., Philadelphia.	1876
AUSTIN, ANNE	Cross Hill, S. C.	1915
BAER, MARY	Gunton, India.	1894
BAKER, FRANCES N. . . .	State St., Media, Pa.	1877
BAKER, JANE R.	Church and Dean Streets, West Chester, Pa.	1892

Name.	Address.	Class.
BALDWIN, EDITH E. . . .	50 Buckingham St., Springfield, Mass.	1913
BALDWIN, KATE W. . . .	1117 Spruce St., Philadelphia.	1890
BANCROFT, MABEL H. F. . .	468 Central Ave., East Orange, N. J.	1903
BARRELL, MARY E.	178 Main St., Worcester, Mass.	1897
BARTLETT, CLARA K. . . .	4301 Atlantic Ave., Atlantic City, N. J.	1900
BARTLETT-**Tyson**, H. FRANCES.	101 Peoria Ave., Leonia, N. J.	1901
BARY, VERA F.	424 Wister St., Germantown, Pa.	1878
BASKERVILLE-**Bradley**, ALINE C.	Fairbanks, Alaska.	1903
BASS, M. ELIZABETH . . .	741 Carondelet St., New Orleans, La.	1904
BASS-**Pigford**, CORA M. . .	Lumberton, Miss.	1904
BASSETTE, M. IMOGENE . .	34 Fair St., Cooperstown, N. Y.	1887
BAUER, LYDIA R.	64 Boyd Ave., Jersey City, N. J.	1914
BAUER, MARIE L.	1613 Fairmount Ave., Philadelphia, Pa.	1890
BEATY, ELIZABETH S. . . .	100 East St., Warren, Pa.	1910
BEAVER, MATILDA	23d and Pine Sts., Philadelphia.	1899
BEDAL, ADELHEID C. . . .	3447 Lafayette Ave., St. Louis, Mo.	1891
BEECROFT, ELIZABETH McK. .	309 W. Susquehanna Ave., Phila.	1904
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BICKINGS-**Thornton**, MARY .	2703 W. Somerset St., Phila., Pa.	1904
BIGLER, LOTTIE G.	3252 W. 30th Ave., Denver, Col.	1912
BISSELL, JULIA	McLean Hospital, Waverly, Mass.	1893
BITTING-**Kennedy**, MIRIAM .	Cynwyd, Pa.	1889
BLAIR, LOVISA IDA	342 S. River St., Wilkes-Barre, Pa.	1912
BLEHL, MARY E.	1105 Diamond St., Philadelphia.	1874
BLITZSTEIN, ROSALIE M. . .	4122 Girard Ave., Philadelphia.	1898
BOLAND, LUCY S.	256 Dundaff St., Carbondale, Pa.	1914
BOONE, EMMA	32d and Sansom Sts. ,Phila.	1880
BOWMAN, MARY R.	Kings Park, Long Island, N. Y.	1907
BOWYER, MAUDE A. . . .	1831 Chestnut St., Philadelphia.	1898
BOYD, ELLA M.	Second St. and Oak Lane, Melrose Park, Pa.	1891
BOYD, MARY L.	Tamaqua, Pa.	1903
BRANDEIS, FLORENCE M. . .	1209 4th St., Louisville, Ky.	1894
BREED, R. ANNA	Centre Square, Mont. Co., Pa.	1892
BRETTHAUER, EMILIE . . .	Hanyang, China.	1904
BRICKER, ELIZABETH B. . .	Lititz, Pa.	1903
BROOKE, MARY P.	408 S. Main St., Butler, Pa.	1910

Name.	Address.	Class.
BROOKE-**de Thodorovich**, E. W.	1423 Locust Street, Philadelphia.	1885
BROOKS-**Bragg**, HELEN E. . . .	1056 Ferdon Road, Ann Arbor, Mich.	1904
BROOMALL, ANNA E.	S. E. cor. 13th and Chestnut Sts., Chester, Pa.	1871
BROWN, ELLEN E.	714 Madison St., Chester, Pa.	1881
BRYDON, MARY E.	110 N. Hamilton St., Madison, Wis.	1911
BUCHANAN, MARY	2106 Chestnut St., Philadelphia.	1899
BUCHANAN-**Custer**, ELLA M. .	137 Green Lane, Manayunk, Philadelphia, Pa.	1883
BULLOCK, ANNIE S.	Los Angeles, Cal.	1912
BUNDY, ELIZABETH R.	1930 Chestnut St., Philadelphia.	1884
BUTT, MIRIAM M.	1701 Chestnut St., Philadelphia.	1894
CARPENTER, FRANCES A. . . .	2101 Madison Ave., Baltimore, Md.	1895
CARPER-**Shelby**, ELIZABETH R.	Shameen, Canton, China.	1906
CARRUTHERS, GEORGINA H. .	3064 Frankford Ave., Phila., Pa.	1900
CASE-**Blechschmidt**, DOTT . .	315 S. 18th St., Philadelphia.	1907
CASSELBURY-**Astley**, CLARA M.	5211 Girard Ave., Philadelphia.	1904
CHANDLER, IRENE P.	Vineland, N. J.	1913
CHAPIN, LAURA S.	1724 Diamond St., Philadelphia.	1888
CHRISTIANCY, MARY E. . . .	State Hospital, Norristown, Pa.	1883
CLARK-**Winter**, REBECCA . .	Hubbard Park, Cambridge Park, Mass.	1904
CLARK, CAROLYN A.	Marion, Va.	1911
CLARK, ELIZABETH E.	252 High St., Germantown, Philadelphia.	1912
CLARK, ELIZABETH FRANCES .	1709 Pine St., Philadelphia.	1909
CLEMENT, RUTH	National Park, N. J.	1889
CLIME-**Weber**, EDITH M. . .	5906 N. 13th St., Philadelphia.	1903
CLOPPER-**Mackenzie**, ALICE V.	1831 Chestnut St., Philadelphia.	1903
COCKETT, MARGUERITE I. . .	Paris, France.	1905
COLLISON, ADAH R.	115 Olympic Place, Seattle, Wash.	1915
COMSTOCK, ELIZABETH . . .	601 Madison Ave., New York.	1901
CONANT, MARY C.	Training School for Girls, Hudson, N. Y.	1899
CONNELY, BERTHA L.	Philadelphia, Pa.	1897
CONNER, ANNIE L.	7056 Main St., Mt. Airy, Philadelphia, Pa.	1901
CONOVER, ANNA ELEANOR .	620 W. York St., Philadelphia.	1912
COOK, ALICE H.	Pennsylvania Hospital for Insane, Philadelphia, Pa.	1913

Name.	Address.	Class.
Cooke-**Kurtz**, Helen . . .	Canton, Ohio.	1884
Coombs, Irene Copeland .	65 Elliott Ave., Yonkers, N. Y.	1888
Corson, Susan R.	89 East Baltimore Avenue, Lansdowne, Pa.	1901
Coughlin, Ella A. . . .	Windsor Hotel, Orange, N. J.	1914
Cowie, Helen J.	42 S. 44th St., Philadelphia.	1906
Coyle, Anna E.	Windsor Locks, Conn.	1912
Craig, Nellie C.	5412 Chestnut St., Philadelphia.	1907
Croasdale, Caroline . . .	5027 Saul St., Frankford, Pa.	1914
Culbertson, Emma B. . .	33 Newbury St., Boston, Mass.	1881
Danforth, Mary	95 Federal St., New London, Conn.	1916
Davidson, Ella Hooker . .	Yale Hospital, Chang Sho Hung, China.	1914
Davis, Ella M.	188 Chestnut St., Holyoke, Mass.	1882
Davis, Mary S.	205 Main St., Darby, Pa.	1892
Davis-**Mullhaupt**, Helene .	St. Marys, Elk Co., Pa.	1880
Davies, Sarah M.	928 17th St., Altoona, Pa.	1911
Dayton, Edna B.	2249 Thompson St., Phila.	1913
Degenring, Anna	Nellore, India.	1904
Deland, Maude Sayres . .	Topeka State Hos., Topeka, Kan.	1910
Dercum, Clara T.	810 N. Broad St., Philadelphia.	1887
Dice, Laura J.	135 S. Queen St., York, Pa.	1890
Diez, M. Luise	5733 Spruce St., Philadelphia.	1903
Doherty-**McGillicuddy**, H. I.	Ancon, C. Z., Panama.	1895
Dougherty-**Trexler**, Henrietta M.	923 Susquehanna Ave., Phila., Pa.	1890
Douredoure, Eveleen . .	4107 Baltimore Ave., Phila.	1905
Downie, Regina M. . . .	2035 Chestnut St., Philadelphia.	1914
Dragonetti, Edvige N. . .	63 N. Willow St., Montclair, N. J.	1914
Dranga, Amelia A. . . .	5816 Callowhill St., Pittsburgh, Pa.	1897
Drinker, Katherine R. . .	Care Dr. H. S. Drinker, S. Bethlehem, Pa.	1914
Dunlap, Effie B.	Ligonier, Pa.	1911
Dyer, Florence A. . . .	30 Midland Ave., E. Orange, N. J.	1894
Dyer, Lora G.	Plainfield, Mass.	1914
Eckstein, Mary A. . . .	2228 Venango St., Philadelphia.	1890
Elliott, Annie R.	State Hospital for Insane, Norristown, Pa.	1912
Ellsworth, Adelaide . . .	Warren, Pa.	1911
Erlanger, Viola J. . . .	2355 E. 55th St., Cleveland, O.	1915
Ernst, Alice L.	Jhansi, United Provinces, India.	1888

Name.	Address.	Class.
ESCANAVERINO, LIBIA M. . .	Firmeza, Oriente, Cuba.	1915
ESSER-**French**, MARY E. . .	Swedesboro, N. J., R. F. D.	1903
EVANS, MARY LOUISE . . .	1204 E. 27th St., North Portland, Oregon.	1906
EVERITT, ELLA B.	1807 Spruce St., Philadelphia.	1891
EXLEY, MAUD CONYERS . .	112 State St., Harrisburg, Pa.	1910
FAIRBANKS, ANNIE D. . . .	Northboro', Mass.	1891
FAYE-**Levering**, IDA . . .	Secunderabad Deccan, India.	1891
FICKES-**Whidney**, VIRGINIA R.	Curwensville, Pa.	1908
FINKLER, RICKA SAPIRO . .	12th and Carpenter Sts., Phila.	1915
FINLEY, JOHANNA S. . . .	Elizabethtown, Pa.	1887
FITZGERALD, CLARA P. . . .	137 Pleasant St., Worcester, Mass.	1897
FLOOD, LUCILE C.	Highland Falls, N. Y.	1915
FLOWER-**Wheeler**, EDITH I. .	Mansfield, Pa.	1897
DE FORD, FRANCES ALLEN . .	2006 Diamond St., Philadelphia.	1887
FORCEE-**Kuyk**, MARGARET P. .	506 E. Grace St., Richmond, Va.	1891
FORMAD, MARIE K. . . .	927 N. Broad St., Philadelphia.	1886
FRAME, JESSIE G.	5219 Ridge Ave., Wissahickon, Philadelphia.	1907
FRANCIS, ADELINE MOXLEY .	Dalton, Pa.	1913
FRANCIS-**Self**, MARIAN . . .	723 Church Lane, Germantown, Philadelphia.	1903
FREESE, ANNIE E.	3813 N. Sydenham St., Phila.	1915
FREUDENBERGER, KATE . .	Tamaqua, Pa.	1898
FULLERTON, ANNA M. . . .	Laudour, Mussoorie, U. P., India.	1882
GALBRAITH, ANNA M. . . .	58 W. 47th St., New York City.	1884
GARDINER, ELIZABETH M. . .	Elizabeth Steel Magee Hospital, Pittsburgh.	1915
GARDNER-**Young**, ANNA J. .	417 E. Somerset St., Philadelphia.	1909
GARRETT, SARAH L.	Paoli, Pa.	1911
GASTON, IDA ESTELLE . . .	2833 Diamond St., Philadelphia.	1893
GETTY, MARY	Jhansi, U. P., India.	1890
GIBSON, ANN TOMKINS . .	6323 Lancaster Ave., Phila., Pa.	1910
GIBSON, JULIA R.	720 N. Broadway, Saratoga Springs, N. Y.	1915
GILES, EILEEN T.	209 Seventh Ave., Brooklyn, N. Y.	1915
GINSBURG, MAY E.	10 N. 8th Ave., Mt. Vernon, N. Y.	1915
GOODMAN, CHARLOTTE E. . .	State Lunatic Hospital, Harrisburg, Pa.	1893
GOODWIN, A. HELENA . . .	3926 Chestnut St., Philadelphia.	1889
GOTTSHALL, FLORENCE M. .	Blue Ridge Summit, Pa.	1913
GRAFF, ELFIE R.	69 West End Av., Somerville, N. J.	1905

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GREAVES, BLANCHE F. . . .	750 S. 53d St., Philadelphia.	1895
GREENBERGER, BESSIE . . .	1845 Webster Ave., Pittsburgh, Pa.	1915
GREENWALD-**Erdman**, MARY .	Stroudsburg, Pa.	1892
GRIM, ELLA WILLIAMS . . .	46 N. 40th St., Philadelphia.	1899
GRISCOM, ELIZABETH W. . .	826 Oxford St., Berkeley, Cal.	1887
GRISCOM, MARY W. . . .	18 Peking Road, Shanghai, China.	1891
GUSTIN-**Mackie**, LAURA V. .	Attleboro, Mass.	1874
HACKLEY, ALICE M. . . .	1541 Diamond St., Philadelphia.	1893
HALL, ANNIE BARTRAM . .	1415 N. 17th St., Philadelphia.	1891
HALL, SARAH C.	318 South St., Elgin, Ill.	1870
HALLOWELL-**Hough**, MARY P. .	Ambler, Pa.	1881
HAMMOND-**McGuigan**, CLARA M.	6018 Drexel Road, Overbrook, Pa.	1887
HAND, ANNA M.	1522 Chestnut St., Philadelphia.	1890
HARDIN, JULIA	6323 Lancaster Ave., Phila.	1904
HARRISON, ROSE	1836 S. Broad St., Philadelphia.	1907
HART, CONSTANCE	Care R. M. Wilkes, Esq., 23 Victoria Road, Darlington, Eng.	1910
HARTLEY, HARRIET L. . . .	1534 N. 15th St., Philadelphia.	1903
HARTON, JULIA P.	1721 Girard Ave., Philadelphia.	1904
HASKINS, MARY GRACE . .	105 Gladwin Bldg., Detroit, Mich.	1901
HATCH, LUCINDA B. . . .	27 Deering St., Portland, Me.	1905
HATFIELD-**Richardson**, BERTHA	2021 N. 13th St., Philadelphia.	1892
HAYDON-**Friel**, MARIE W. . .	4624 Spruce St., Philadelphia.	1892
HEATH, FRANCES J.	Peking, China, care of Amer. M. E. Mission.	1912
HEATH-**Martin**, LOUANNA . .	19 N. Sixth St., Newark, N. J.	1903
HERON-**Guthrie**, FANNY S. .	Royston, Helensburg, Scotland.	1880
HERROLD, MAUDE M. . . .	802 Shukert Building, Kansas City, Mo.	1883
HERSOM, JANE LORD . . .	106 Pine St., Portland, Me.	1886
HILDRUP, JOSEPHINE P. W. .	Care of Thos. Cook & Son, Vienna.	1901
HILLMAN, H., BLANCA . . .	Drexel Hill, Pa.	1905
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HIRSCHLER, ROSE	126 S. 17th St., Philadelphia.	1899
HOCKADAY, AGNES	8 E. Baltimore Ave., Lansdowne, Pa.	1911
HOLLINSHED, BEULAH S. . .	600 Benson St., Camden, N. J.	1907
HOLT, MARGARET A. . . .	1820 Fiske Ave., Pasadena, Cal.	1893
HORNER, CLARA L.. . . .	412 Broadway, Camden, N. J.	1912
HOOD, MARY G.	No. 9 Crescent Avenue, Newton Centre, Mass.	1874
HOUSER, HELEN	Taylor, Pa.	1915

Name.	Address.	Class.
HUGHES, ELIZABETH M.	1924 N. 63rd St., Philadelphia.	1912
HU KING-ENG	Woolstan Memorial Hospital, Foochow, China	1894
HUNSICKER, HANNAH M.	Olney, Pa.	1902
HUSE, GRACE	State Normal School, Greensburg, N. C.	1912
HUNT, LAURA	213 S. 17th St., Philadelphia.	1908
INGERSOLL, LOUISE M.	Asheville, N. C.	1914
INGRAM-**Stephens**, EMILY J.	Telford, Pa.	1883
ISRAEL-**Glink**, CLARA T.	2121 Peters Ave., New Orleans, La.	1896
IVES, S. MARY	198 College Street, Middletown, Conn.	1894
JAMES, MARY LATIMER	Amer. Church Mission, Wuchang, China.	1907
JAMISON, EMILY C.	Hartsville, Pa.	1911
JAUQUET-**Preis**, CLOTILDE	909 Julia Street, New Orleans, La.	1904
JEFFERIS, ESTHER L.	109 E. 56th St., New York City.	1907
JOHNSON, LAURA MANN	State Hospital, Evansville, Ill.	1906
JONES-**Sturgis**, MARGARET	Leonori, N. C.	1892
JONES, MARY SCOTT	82 St. Stephen St., Boston, Mass.	1892
KAHN, CORNELIA	1704 N. 18th St., Philadelphia.	1887
KAUKONEN, AMY A.	Conneaut, O. R. F. D. No. 1.	1915
KINDBOM, HANNA	1507 Poplar St., Philadelphia.	1910
KINNAMAN, MAUD	Philadelphia General Hospital.	1915
KINNEY, MILA A. J.	Elm St., San Diego, Cal.	1910
KIRSHBAUM, HELEN	1303 Locust St., Philadelphia.	1893
KNOWLES, MARY GILBERT	1709 Pine St., Philadelphia.	1912
KRAKER, FLORENCE E.	1225 Spruce St., Philadelphia.	1905
KRESS, ORA	Melrose Sanitarium, Melrose, Mass.	1911
KUGLER, ANNA S.	Guntur, Presidency of Madras, India.	1879
KUKDE, TUNGA MARY S.	India.	1915
LADD-**Hall**, CAROLYN	Haverford, Pa.	1889
LAMBICHI, MARIKI	St. Timothy's House, 714 Reed St., Philadelphia.	1916
LANGDON, MARIE G.	Box 113, Coytesville P. O., N. J.	1905
LANGSDORF-**Lee**, HILDEGARDE	172 W. High St., Carlisle, Pa.	1891
LAPHAM, MARY E.	Highlands, N. C.	1900
LARGE, MARGARET R.	40 N. 16th St., Philadelphia.	1909
LARIMORE, LOUISE D.	2035 Chestnut St., Phila.	1915
LATHROP, RUTH WEBSTER	1415 N. 17th St., Philadelphia.	1891

Name.	Address.	Class.
LAWNEY, JOSEPHINE . . .	Reedsboro, Vermont.	1916
LEE, DOROTHEA	Eastern State Hospital, Williamsburg, Va.	1913
LEEDS, MARY B.	221 Kings Highway, West, Haddonfield, N. J.	1903
LEHNIS, EDITH M.	1444 Broadway, Buffalo, N. Y.	1911
LE MAISTRE, HELEN J. . . .	Penna. Hospital for Insane, Phila.	1914
LEO, JOHANNA B.	520 W. 182d St., New York City.	1897
LEWANDOWSKI, JULIA M. . .	97 High St., Holyoke, Mass.	1911
LEWIS, BERTHA	Pembroke Road, Bryn Mawr, Pa.	1893
LEWIS, MARY R.	46 N. 40th St., Philadelphia.	1911
LICHTENWALNER-**Myers**, MAE	34 W. Pomona St., Gtn., Phila.	1905
LIPPERT, FRIEDA E. . . .	1716 N. 18th St., Philadelphia.	1889
LITTLE, ABBEY NOYES . . .	22 Essex St., Newburyport, Mass.	1894
LOCKREY, SARAH H. . . .	1701 Chestnut St., Philadelphia.	1888
LONGACRE, ELSIE U. L. . .	Tannersville, Pa.	1910
LOOG, MARY E.	5959 Ridge Ave., Philadelphia.	1896
LOSADA, CAMMELLA	Port of Spain, Trinidad.	1915
LOUGHLIN, REBECCA P. . .	Waynesboro, Pa.	1897
LOVELACE-**Pickett**, ELIZABETH	Aldan, Pa.	1895
LUTHER, CALISTA V. . . .	481 Sixth Ave., Brooklyn, N. Y.	1885
LYON-**Heard**, ETHEL . . .	1927 Ave. H., Galveston, Texas.	1905
MACDUFFEE, MARY J. . . .	1607 N. 15th St., Philadelphia.	1898
MACPHAIL, MARGARETTA . .	112 State St., Harrisburg, Pa.	1908
MCALLISTER, ANNA M. . .	3503 Baring St., Philadelphia.	1873
MCCALMONT-**Stone**, HARRIETTE	1102 W. Main St., Kalamazoo, Mich.	1893
MCCOLLIN-**Tatum**, MARY B. .	Llanerch, Pa.	1898
MCCUNE-**Rossa**, MARY VIRGINIA	506 W. Johns St., Martinsburg, W. Va.	1895
MCFALL, MARY J.	Somerset, King's County, Nova Scotia, Canada.	1911
MCGUINNESS, MADGE C. . .	40 97th St., West, New York City	1908
MCKEE, JENNIE M. . . .	Birmingham, Iowa.	1916
MCKEON-**Hall**, KATHARINE .	Ft. Washington, Pa.	1897
MCKIRACHAN-**Lyons**, M. H. .	Lincoln University, Chester Co., Pa.	1893
MCLATCHY, LELIA	Care of Goodrich Rubber Co., Akron, O.	1913
MACFARLANE, CATHARINE . .	1709 Pine St., Philadelphia.	1898
MANSHIP, FRANCES P. . . .	Cheshire, Conn.	1912
MARGOLIN, FANNIE B. . . .	1727 N. 52d St., Philadelphia.	1912
MARSHALL, CLARA	258 S. 16th St., Philadelphia.	1875

Name.	Address.	Class.
MARTINE, ANGELINE . . .	325 Genesee St., Utica, N. Y.	1892
MASON, MARY T.	Cerne, School House Lane, Germantown, Pa.	1915
MATZKE, EDITH H.	Cornell Univ., Ithaca, N. Y.	1895
MAY, SARAH A.	708-A Flanders Bldg., 15th and Walnut Sts., Phila.	1892
MAYO, SARAH TEW	518 Macheca Building, New Orleans, La.	1898
MAYO-**Schneideman**, FLORENCE	1831 Chestnut St., Philadelphia.	1890
MEINE, BERTA M.	1306 N. 22d St., Philadelphia.	1911
MERRITT-**Hooper**, ELIZABETH M.	518 Rawlins St., Port Huron, Mich.	1883
METCALF, AMY A.	Union Medical College, Pekin, China.	1912
MIESSE, KATHARINE DE W. .	64 N. 4th St., Easton, Pa.	1889
MILLER, MARY THOMAS . .	313 N. 33d St., Philadelphia.	1899
MILLER-**Rivard**, RUTH ANNE .	5031 Woodland Ave., Philadelphia, Pa.	1909
MILLIGAN, ALICE H. . . .	4620 Kingsessing Ave., Philadelphia, Pa.	1912
MILLIKIN-**Parker**, MARIE . .	Charlotte, N. C.	1913
MIMS, CAROLINE	Medical Bldg., New Orleans, La.	1912
MOREHOUSE, EDITH TAFT . .	305 Third Ave., Asbury Park, N.J.	1913
MORRIS, CECILLA K. . . .	Corning, Iowa.	1912
MORRIS, SARAH I.	762 Langdon St., Madison, Wis.	1910
MOUNT, WINNIE K. . . .	112 State St., Harrisburg, Pa.	1905
MOURADIAN, MARIAM G. . .	New England Hospital for Women, Roxbury, Mass.	1913
MOYER, LIZZIE	2137 N. College Ave., Philadelphia.	1915
MUNHALL, KATHARINE S. . .	302 La Fayette Av., Buffalo, N. Y.	1893
MUNRO, CATHERINE N. . .	Winthrop College, Rock Hill, S. C.	1899
MUNSON, ARLEY I.	17 Broad St., Red Bank, N. J.	1902
MURPHY, HELEN	1433 Spruce St., Philadelphia.	1893
MYERS-**Sullivan**, ELIZABETH Y.	11 St. James Ave., Springfield, Mass.	1906
NAYLOR, MARY A.	Penn Ave. and Roup St., Pittsburg.	1909
NEFSKY, EDITH D.	1418 Catherine St., Philadelphia.	1899
NELSON, WILHELMINA T. M. .	State Home for Feeble-minded Women, Vineland, N. J.	1891
NOBLE, HARRIET ISABEL . .	262 Putman Ave., Brooklyn, N.Y.	1901
NOBLE, MARY RIGGS . . .	811 N. Tejon St., Colorado Springs, Colo.	1901

Name.	Address.	Class.
NOYES, MARGARET L.	103 St. James Ave., Boston, Mass.	1903
NUNAN, NELLIE F.	Blue Ridge Summit, Pa.	1913
NAUSBAUMER, PAULINE S. . .	N. E. cor. 24th and Broadway, Oakland, Cal.	1900
O'CALLAGHAN, MARY V. . .	137 Pleasant St., Worcester, Mass.	1885
O'KEEFE, ABBIE MABEL . .	33 Elm St., Northampton, Mass.	1905
OLENDORF, CAROLYN L. . .	Cobleskill, N. Y.	1899
OLIVER-**Briggs**, PHEBE . . .	South Dansville, N. Y.	1870
OLLSWANG, DOROTHY E. . .	Amagansett, L. I.	1915
ORECCHIA, IDA B.	1173 S. 12th St., Philadelphia.	1907
OSBORNE, CAROLINE A. . .	148 Woodland St., Worcester, Mass.	1899
OSBORNE-**Lichner**, MATHILDA .	934 N. Hoyne Ave., Chicago., Ill.	1905
OSMOND, ANNA R.	10th and Reed Sts., Philadelphia.	1897
OSTROW, SOPHIE	1432 N. Franklin St., Phila.	1911
PAGE, AGNES ELIZABETH . .	359 State St., Albany, N. Y.	1906
PARKER-**Easton**, FLORA . .	State Hospital, Norristown, Pa.	1901
PATTERSON, ELLEN JAMES . .	1018 Westinghouse Bldg., Pittsburgh, Pa.	1898
PEABODY, ANNA M. E. . . .	Zanesville, Ohio.	1883
PECK, GENEVIEVE R. . . .	3818 Spruce St., Philadelphia.	1916
PECKHAM, ADELAIDE W. (N. Y.)	Care of Woman's Medical College of Pennsylvania, Philadelphia.	1902
PHILBRICK, INEZ C. . . .	1023 H St., Lincoln, Neb.	1891
PICKETT, ALICE M.	1145 4th Ave., Louisville, Ky.	1909
PICKETT, FRANCES E. . . .	2137 N. College Ave., Phila.	1915
PIPER-**Houck**, MARY R. . .	816 Main St., La Crosse, Wis.	1887
POLK, ETHEL M.	Woman's Hospital, Soochow, China.	1912
VON POSWIK, GISELA . . .	523 N. Washington Ave., Scranton, Pa.	1911
POTTER, ELLEN C.	5138 Wayne Ave., Philadelphia.	1903
PRESSON-**Kraus**, DORIS M. .	57 Green St., Augusta, Maine.	1911
PRESTON, MARY	Carlisle, R. I.	1884
PUTNAM, EMMA	Hudson River State Hosp., Poughkeepsie, N. Y.	1883
QUAAS, MARIE R. O. . . .	3016 Richmond St., Philadelphia.	1906
RABINOFF, SOPHIE	Hebrew Infant Asylum, Kingsbridge Rd., New York	1913
RADLEY, KATHERINE . . .	1250 N. 52d St., Philadelphia.	1902
RADOM, ELIZABETH	244 Windor St., Hartford, Conn.	1915
RADOM, FANNY	26 S. Stanley Street, New Britain, Conn.	1912
RAGLAND, WILHELMINA A. .	New York Infirmary, N. Y.	1909

Name.	Address.	Class.
REA, MARION H.	Philadelphia General Hospital.	1915
REED-**Derick,** ALMA . . .	Bellwood, Pa.	1912
REDDIE, JACOBINA SOMERVILLE	4830 Baltimore Ave., Phila.	1905
REEL, IDA VIRGINIA . . .	4027 Spring Garden St., Phila.	1882
REES, MAUD MARY . . .	1911 Mt. Vernon St., care of Dr. A. Hess, Philadelphia.	1908
REIMEL, CLARA	723 W. Girard Ave., Philadelphia.	1895
REIS, ROSE SELECTER . . .	3135 Diamond St., Philadelphia.	1913
REYNOLDS, ANNA M. . . .	239 N. Rowan Ave., Los Angeles, Cal.	1885
RICHARDS, FLORENCE HARVEY	3708 Hamilton St., Philadelphia.	1899
RIDGWAY-**Ziegler,** ELLA M. .	2031 E. Alleghany Ave., Philadelphia, Pa.	1874
ROBERTS, MERCEDES A. . .	1144 S. 11th St., Philadelphia.	1904
ROBINOVITCH, LOUISE G. . .	P. O. Box, 1023, Editor Jour. of Mental Pathology, New York City.	1898
ROBINSON, A. MAY	421–422 First Nat. Bank Bldg., Birmingham, Ala.	1905
ROCHELLE, MARY J. . . .	628 W. York St., Philadelphia.	1906
ROGERS-**Easby,** ALICE . . .	23 East 2d St., Media, Pa.	1884
RONDINELLA, ANNINA C. . .	Whitefield, N. H.	1899
RUBIN, ROSE S.	881 N. 7th St., Philadelphia.	1910
RULE, AMY JEAN	1813 Adams Mill Road, N. W., Washington, D. C.	1908
RUPERT, MARY P. S. . . .	1709 Pine St., Philadelphia.	1904
RUSSELL, ELLA M.	Chambersburg, Pa.	1906
RUTHERFORD, FRANCES A. .	45 Shelden St., Grand Rapids, Mich.	1868
RYAN, EDITH F.	26 W. Main St., Batavia, N. Y.	1915
RYAN, MARIA P.	1246 S. Broad St., Philadelphia.	1911
RYNKIEWICZ, ELLA I. . . .	40 E. Centre St., Shenandoah, Pa.	1915
SASSEN, AUGUSTA A. . . .	Memorial Hospital, Worcester, Mass.	1913
SATTERTHWAITE, LAURA H. .	R. D. Route No. 2, Trenton, N. J.	1888
SCHECTMAN, VERA	14 Valley Rd., West Orange, N. J.	1912
SCHETKY, MARTHA G. K. . .	911 S. 48th St., Philadelphia.	1897
SCHETKY, S. ELIZABETH A. .	Care of Thomas Cook & Son, Vienna.	1900
SCHISLER, BELLE A. . . .	2835 Diamond St., Philadelphia.	1901
SCHNEIDER-**Blum,** LOUISE . .	Nazareth, Pa.	1879
SCHWATT, LINA D.	1226 S. 58th St., Philadelphia.	1912
SCOTT-**Miller,** M. JEANETTE .	Lebanon, Pa.	1888

Name.	Address.	Class.
SEABROOK, ALICE M. . . .	Woman's Hospital, Philadelphia.	1895
SEIXAS, MARIE	68 Ave., New York City.	1909
SELKIN, EMMA A.	959 Prospect Ave., New York City.	1910
SHARP, JENNIE S.	565 Stevens St., Camden, N. J.	1895
SHARPLESS, ANNA P. . . .	3926 Chestnut St., Philadelphia.	1889
SHEDWICK-**Bailey**, MARY F. .	The Girvin, 3510 Hamilton St., Philadelphia.	1905
SHERMAN, JEANETTE HURD .	Ridley Park, Pa.	1899
SHERMAN, MARY H. . . .	Brookfield, Mass.	1891
SHETTER-**Keiser**, CLARA . .	36 N. 10th St., Reading, Pa.	1885
SHETTER-**Ray**, ELIZA A. . .	2030 N. 21st St., Philadelphia.	1886
SHICK, MARY McD. . . .	Elwyn, Delaware Co., Pa.	1895
SHINE, HONORIA K. . . .	78 Nonotuck St., Holyoke, Mass.	1913
SHIMER-**Thompson**, IDA M. .	30 Washington Street, Hartford, Conn.	1885
SIBLEY-**Lee**, FLORENCE M. .	Haverford, Pa.	1884
SIMPSON, JESSIE P.	Jhelum, India.	1898
SKINNER, JULIA FAITH . . .	Kingsville, Texas.	1916
SLATTERY-**Fricka**, KATHERINE I.T.	1705 Oxford St., Philadelphia.	1912
SLAYTON, BEATRICE	Spencersport, N. Y.	1914
SMILEY, ANNE ELLIOTT . .	5203 Haverford Ave., Philadelphia, Pa.	1891
SMITH, CAROLINE E. . . .	Perry Building, Philadelphia.	1883
SMITH, CARRIE WEAVER . .	701 Carroll Ave., Dallas, Texas.	1910
SMITH, ELIZABETH WALLACE .	238 W. Peachtree St., Atlanta, Ga.	1877
SMITH, ELLEN B.	Salem, N. J.	1892
SMITH-**Deming**, MARY E. . .	47 Highland St., Hartford, Conn.	1914
SMITH, MARY HOPKINS . .	Parvin Place, Parksburg, Pa.	1896
SPENCER-**McCall**, ELIZABETH C.	51 Summit Grove Ave., Bryn Mawr, Pa.	1903
SPENCER, CAROLINE E. . .	805 N. Cascade Ave., Colorado Springs, Colo.	1892
SPENCER, SYLVIA D. . . .	1121 Spruce St., Phila.	1916
SPIEGLE, GRACE E.	2115 N. 12th St., Philadelphia.	1898
SPRAGUE, FRANCES R. . . .	Pembroke Road, Bryn Mawr, Pa.	1891
STANTON, ANNA M. . . .	1412 5th Ave., Pittsburg, Pa.	1897
STARKEY, KATHERINE M. . .	Ocean City, N. J.	1915
STAUNTON, FLORENCE I. . .	14 Cottage Place, Utica, N. Y.	1905
STECKEL-**Farrington**, CHARLOTTE	2130 Passyunk Ave., Phila., Pa.	1901
STEES, FANNIE R.	Harrisburg, Pa.	1913
STEVENSON, LILLIAN G. . .	145 W. 12th St., New York City.	1909
STEWART, HELEN M. . . .	Chambersburg, Pa.	1911

Name.	Address.	Class.
STEWART-**Cogill**, LIDA M. . .	1831 Chestnut St., Phila., Pa.	1890
STOCKTON, SARAH	Hospital for Insane, Indianapolis.	1882
STOECKEL-**Lundquist**, LOUISE M.	N. W. cor. Franklin and Union Sts., Wilkesbarre, Pa.	1890
STOKES, LYDIA WEBSTER . .	739 S. Broad St., Philadelphia.	1894
STORM, KATHERINE L. . . .	1541 Diamond St., Philadelphia.	1893
SULLIVAN, MARY I.	220 Wadsworth Ave., New York.	1911
SUMMER-**Haines**, MABEL C. .	1200 Spruce St., Philadelphia.	1908
SWALM, M. C. EDNA . . .	4913 N. 13th St., Logan, Phila, Pa.	1913
SWANEY, ALICE L.	44 E. Bean St., Washington, Pa.	1903
SWEET, FLORA LOUISE . . .	Utica, N. Y.	1913
TANKERSLEY, GRACE . . .	1801 Olive St., Pine Bluff, Ark.	1916
TAPPAN, LUCY N.	639 S. Walnut St., Urbana, Ohio.	1886
TAYLOR, ANNA H.	218 W. 5th St., Liverpool, O.	1915
TAYLOR-**Calverly**, ELEANOR .	Kurveit, Persian Gulf, Arabia.	1908
TAYLOR, HELEN HILL . . .	Care of Dr. Crawford, York, Pa.	1914
TAYLOR, MARIANNA . . .	St. David's, Pa.	1908
THOMAS, ADA R.	No. 2, The Thomas, Washington, D. C.	1893
THOMAS, ANNE HEATH . . .	3808 Locust St., Philadelphia.	1905
THOMSON, E. MABEL . . .	Craig Colony, Sonyea, N. Y.	1913
THOMPSON-**Coppen**, MELISSA .	1913 Bainbridge St., Philadelphia.	1910
TOMKINSON, E. A. S. . . .	1815 Mt. Vernon St., Phila., Pa.	1886
TRACY, MARTHA	5138 Wayne Ave., Gtn., Pa.	1904
TREICHLER, ELSIE	1721 N. 33d St., Philadelphia.	1901
UPHAM, HELEN F.	305 Third Avenue, Asbury Park, N. J.	1903
VALENTINE, EDNA SIMPSON .	Fruitland Park, Fla.	1910
VAN GASKEN, FRANCES C. .	115 S. 22d St., Philadelphia.	1890
VOGT, MARNETTA E. . . .	2121 N. College Ave., Phila.	1916
WAINRIGHT, MAUD	5203 Walnut St., Philadelphia.	1905
WAITE, ANNA J.	Worcester, Mass.	1910
WALKER, GERTRUDE A. . .	2325 Thompson St., Philadelphia.	1892
WALSH, MARIA C.	902 Pine St., Philadelphia.	1893
WARD, LETTIE ALLEN . . .	704 Broadway, Camden, N. J.	1898
WARD, MARY C.	1328 N. 52d St., Philadelphia.	1895
WARD, NELLIE M.	Memorial Hosp., Worcester, Mass.	1915
WARLOW, MARGARET A. . .	1831 Chestnut St., Philadelphia.	1902
WATERMAN, HELEN J. . . .	2741 Woolsey St., Berkeley, Cal.	1897
WAY-**Allen**, MELLEN, E. . .	291 Lake Ave., Newton Highlands, Mass.	1903
WEAVER, FLORENCE . . .	6106 Market St., Phila., Pa.	1911
WEICKSEL, AMELIA	1541 Diamond St., Philadelphia.	1904

Name.	Address.	Class.
WEIDNER, FRANCES	26th and Chestnut Sts., Chester, Pa.	1888
WEINTRAUB-**Barnett**, ROSE L. .	1822 Erie Ave., Phila.	1916
WEINTRAUB, S. LOUISE . . .	1239 S. Broad St., Philadelphia.	1883
WEITHAASE, HELEN E. . .	114 N. Sixth St., Vineland, N. J.	1908
WELLS-**Durrschmidt**, ELIZ. C. .	Cor. Madison and Latham Sts., Sag Harbor, N. Y.	1912
WELSH, LILIAN	The Arundel, Baltimore, Md.	1889
WENZEL, MARY	3628 N. Broad St., Philadelphia.	1897
WERNER-**Findeisen**, MARIE B.	2ª de la Independencia, No. 1. Aguas Calientes, Mexico.	1880
WEYL, ESTHER M.	757 N. 20th St., Philadelphia.	1906
WHALAND, BERTA	2335 Berks St., Philadelphia.	1910
WHEELER, LUCIA A. . . .	State Asylum, Wernersville, Pa.	1898
WHITEHEAD-**Pearce**, H. EUGENIA	231 High St., Mt. Holly, N. J.	1892
WHITESIDE, MARGARET . .	Richburg, S. C.	1912
WHITTEN-**Auge**, EMILY G. .	1261 S. 28th St., Philadelphia.	1894
WHITTEN, GEORGIA BALLON .	Whitten Block, Spokane, Wash.	1887
WIGGINS, SUSAN WILLSON . .	1918 Wallace St., Philadelphia.	1908
WILEY-**Anderson**, CAROLINE V.	1924 S. College Ave., Phila., Pa.	1878
WILLIAMS-**Vanderbeck**, SARA J.	203 W. 117th St., New York City.	1890
WILLIAMSON, CAROLYNE GAY .	315 W. 95th St., New York City.	1916
WILLIAMSON, KATHARINE A. .	254 S. 13th St., Philadelphia.	1887
WITHERBEE, ELIZABETH W. .	101 Newton Street, Marlborough, Mass.	1876
WOLFENDER-**Battershall**, M. H.	12 Main St., Attleboro', Mass.	1879
WOODBY-**McKane**, ALICE R. .	3 Marbel St., Boston.	1892
WRIGHT-**Bartram**, NELL G. .	King's Park, New York.	1903
WRIGHT-**Newlin**, GLADYS . .	2031 N. 19th St., Philadelphia.	1913
WUNDERLE, BLANCHE B. . .	Edge Hill P. O., Pa.	1904
WYGANT-**Perry**, JULIA . . .	80 Beechknoll Road, Forrest Hill, L. I.	1891
YHLEN-**Olsen**, CHARLOTTE A.	The Gladstone, Philadelphia.	1873
YOUNG, ANNIE	Pinette, Prince Edward Island, Canada.	1898
ZABARKES, RAY VERA . . .	Hamburg, Pa.	1913

HONORARY MEMBERS

Name and Residence.	Where Graduated.
BALDWIN, HELEN, New York City.	W. Med. Col. of N.Y. Infirmary.
BERLINERBLAU, FANNY, Boston.	University, Berne, Switzerland.
CALL, EMMA L., Boston.	University of Michigan.
DEVOLL, SARAH W., Westboro State Hospital, Westboro, Mass.	N. E. F. Med. Col., Boston.
HUSEN, FLORENCE, New York City.	University of Michigan.
LATHAM, VIDA A., Chicago, Ill.	Univ. of Mich., 1892; N. W. Univ., 1895.
LAWRENCE, ANNA F., Louisville, Ky.	N. E. F. Med. Col., Boston.
LOTHROP, HARRIET W., Philadelphia.	Zürich, Switzerland.
MOREY-**Errant**, NETTIE D., Chicago.	W. Med. College of Chicago.
MORTON, HELEN, Boston.	N. E. F. Med. Col., Boston.
POPE, C. AUGUSTA, Boston.	N. E. F. Med. Col., Boston.
POPE, EMILY F., Boston.	N. E. F. Med. Col., Boston.
POST-**Van Orden**, KATE, San Francisco.	University of California.
SHERWOOD, MARY, Baltimore, Md.	Zürich, Switzerland.
SHUEY, SARAH J., Berkeley, Cal.	University of California.
WILLIAMS, ANTOINETTE, Louisville, Ky. Care Office School Commission.	University of Michigan.

HONORARY MEMBERS

In Memoriam

Angell, Anna A., Boston. College of N. Y. Infirmary.
(Deceased 1906.)

Avery, Alida C., San José, Cal. N. E. F. Med. Col., Boston.
(Deceased about 1909.)

Warner, Helen F., Detroit, Mich. University of Michigan.
(Deceased 1907.)

Webster, Helen W., New Bedford, Mass., N. E. F. Med. Col., Boston.
(Deceased 1908.)

Zakzrewska, Marie E., Boston. Cleveland Med. College, Ohio.

ASSOCIATE MEMBERS

Name.	Address.	Class.
Bryant, Alice G.	502 Beacon St., Boston.	1890
Buck, Matilda	Rock Hill, S. C.	1889
Hudson, Jessie B.	Clinton, Iowa.	1908
Mitchell, Elsie Reed	Berkeley Nat. Bank Bldg., Berkeley, Cal.	1897
Patterson, Louise	Vineland, N. J.	1899
Tallant, Alice Weld	1200 Spruce St., Philadelphia.	1902
Wolfe, Mary M.	State Institution for Feeble-minded Women, Hartleton, Pa.	1899

Note.—Members are earnestly requested to send change of address to the Corresponding Secretary, Caroline Croasdale, 5027 Saul Street, Frankford, Philadelphia, Pa., and also to the Dean of the College.

IN MEMORIAM

Name.	Date of death.	Residence.	Class.
Abbott, Lucy M.	1875	New York City.	1865
Adams, Anne S.	1886	McClenny, Fla.	1873
Adams, Charlotte G.	....	Boston, Mass.	1853
Adams, Harriet	1886	Palmyra, N. Y.	1859
Aldrich, Olive Dewey	1896	Philadelphia, Pa.	1874
Alexander, Clara J.	1913	Boston, Mass.	1889
Allen, Amy H.	1914		1892
Ames, Amy	1901	St. Louis, Mo.	1894
Archer, Minnie Clifton	1912	Houston, Texas.	1894
Armitage, Eliza Wood	1916	Kennett Square, Pa.	1870
Armor, Mary Margaret	1912	Washington, D. C.	1904
Audenried, Ada Howard	1898	Philadelphia, Pa.	1892
Avery, Mary Alice	1904	Portland, Maine.	1879
Bailey, Mary M.	....	Pennsylvania.	1859
Baker-**Haines**, Annie Rose	1911	Sioux Falls, S. D.	1903
Baker, Sibella F.	1879	Chicago, Ill.	1870
Baker, Strathmore M. C. C.	1892	Philadelphia, Pa.	1890
Barker, Edith Anna	1904	East Rochester, N. H.	1897
Barnes, Ella E.	1898	Alabama.	1893
Barnes, Ida Charlotte	1911	Topeka, Kan.	1890
Barton, Amy S.	1900	Philadelphia, Pa.	1874
Barton, Edith	1913	Scranton, Pa.	1902
Bates, Elizabeth H.	1898	Portchester, N. Y.	1854
Baugh, Elizabeth P.	1889	Ashland, Pa.	1857
Belcher, Harriet	1887	Santa Barbara, Cal.	1879
Betts, Helen L.	1910	San José, Cal.	1872
Beverley, Julia A.	1876	Providence, R. I.	1853
Bigelow, Elizabeth H.	1898	Massachusetts.	1876
Billstein, Emma L.	1914	Baltimore, Md.	1893
Blinn, Odelia	1905	Chicago, Ill.	1868
Babb, Elizabeth M.	1911	Nashville, Tenn.	1872
Bodley, Rachel A.	1888	Philadelphia, Pa.	1879
Bradley, Melissa A.	1878	Wilkesbarre, Pa.	1872
Brensinger, Ellen C.	1915	Philadelphia, Pa.	1885
Brook-**Smith**, Harriet	1896	Austin, Texas.	1886

Name.	Date of death.	Residence.	Class.
Brown, Charlotte B.	1904	San Francisco, Cal.	1874
Brown, Lucy Hughes	1911	Charleston, S. C.	1894
Browne, Jennie G.	1877	Chicago, Ill.	1870
Brownell, Emily A. Varney	1906	Haywards, Cal.	1855
Bruson, Mary E. Blackmar	1916	S. Jacksonville, Fla.	1867
Buckel, C. Annette	1912	Oakland, Cal.	1858
Burns, Kate	1908	Canton, Ohio.	1892
Burnside, Eliza J. Zimmerman	1915	Tiffin, Ohio.	1860
Cadwallader-**Crowder**, Edith Warner	1906	Chicago, Ill.	1900
Campbell, Bertha Hastings	1911	Oklahoma.	1891
Canavin, Margaret C.	1888	Philadelphia, Pa.	1886
Carpenter, Julia W.	1915	Cincinnati, O.	1870
Case, Mary W.	1889	Lansingburg, N. Y.	1881
Cleveland, Emeline H.	1878	Philadelphia, Pa.	1855
Collins-**Jones**, Elizabeth	1896	Philadelphia, Pa.	1856
Comly-**Howell**, Elizabeth H.	1912	West Chester, Pa.	1880
Cook, Frances A.	....	San Francisco, Cal.	1863
Coon, Sarah A.	1881	New York City.	1868
Croasdale, Hannah T.	1912	Syracuse, N. Y.	1870
Curran, Beatrice M.	1908	Pittsfield, Mass.	1904
Curry, Ida F.	1891	Boston, Mass.	1888
Darnstadt-**Keen**, Louisa	1914	Boston, Mass.	1887
Davis, Josephine Griffith	1911	New York City.	1877
Davidson, Clara M.	1905	Newberg, Oregon.	1893
Denlinger, Eliza H.	1883	Portland, Oregon.	1883
Dexter, Ella L.	1910	Boston, Mass.	1881
Dodson, Caroline M.	1898	Philadelphia, Pa.	1874
Douglass, Maria C.	....	Burmah.	1882
Du Bois, Emilie B.	1884	Philadelphia, Pa.	1878
Eagleson, Jennie R. M.	1894	Meadville, Pa.	1886
Eayre-**Keisher**, Edith E.	1913	Philadelphia, Pa.	1908
Eckhardt, Mary A.	1887	West Virginia.	1876
Eddowes, Anna	1890	Philadelphia, Pa.	1876
Ellinger-**Piersol**, Minna	1871	Philadelphia, Pa.	1854
Ellis, Hannah W.	....	Philadelphia, Pa.	1853
Ellis, Susannah H.	....	Wm. Penn P. O., Penna.	1852
Fearing, Sarah J.	1896	Denver, Col.	1890
Fleisher, Rebecca	1906	Philadelphia, Pa.	1886
Fleming, Lulu C.	1895	Africa.	1895
Forbes, Elizabeth E. F.	1877	Wilmington, Del.	1877
French, Ruth A.	1913	Santiago, Cal.	1867
Fussell, Rebecca L.	1894	Media, Pa.	1858

Name.	Date of death.	Residence.	Class.
GABLE, ELIZABETH	1897	Philadelphia, Pa.	1890
GALE, E. MARY	1906	Shanghai, China.	1886
GALT-**Simmons**, ELEANOR . .	1909	Miami, Fla.	1879
GARDINER, AGNES M. . . .	1902	Toledo, Ohio.	1899
GARVER, JANE K.	1903	Harrisburg, Pa.	1872
GEORGE, J. MAUDE	1904	Tak King Chau, China.	1900
GERRY, RUTH A.	1877	Ypsilanti, Mich.	1865
GILCHRIST, BEATRICE . . .	1881	Edinburgh, Scotland.	1878
GRAVES, ELLEN T.	1892	Kansas City, Mo.	1883
GREEN, MARY E.	1910	Seattle, Wash.	1868
GREENAWALT, W. M. . . .	1874	Lebanon, Pa.	1871
GREENBANK, ELIZABETH H. .	1895	Philadelphia, Pa.	1888
GREEN-**Cheney**, LUCILLA W. .	1878	Nynee Tal, India.	1875
GRIER, ELIZA A.	1902	Matthews, N. C.	1897
HAGER-**Calver**, STELLA . . .	1909	Dallas, Texas.	1901
HALLOWELL, REBECCA COOPER	1909	Haddonfield, N. J.	1878
HARRIS, LILIAN N.	1902	Pyeng Yang, Korea.	1897
HAYHURST, SUSANNA . . .	1909	Philadelphia, Pa.	1857
HATCHETTE, FRANCES . . .	1900	Philadelphia, Pa.	1886
HAZLITT-**Upson**, GRACE . .	1911	Glenridge, N. J.	1884
HENDERSON, MARY A. . . .	1880	Philadelphia, Pa.	1878
HIBBERD, SARAH A. . . .	1883	Rochester, N. Y.	1870
HILDEBRAND, JENNIE BROOKS	1905	San Francisco, Cal.	1870
HILLS, J. ERNESTINE . . .	1903	Willard, N. Y.	1893
HOCHMAN, GEORGINE I. . .	1898	Philadelphia, Pa.	1896
HOLMES, ANABEL	1906	Chicago.	1892
HOPKINS, HARRIET C. L. . .	1912	Mt. Vision, N. Y.	1869
HOWARD, SOPHIE E. . . .	1893	Fairport, N. Y.	1879
HUGHES, DEBBIE A. . . .	1861	Charleston, Pa.	1856
INGERSOLL, ELLEN	1888	Canton, Ill.	1874
IRISH, DELILA S.	1878	Davenport, Iowa.	1868
JACKSON, MARY K.	1897	Philadelphia, Pa.	1894
JOHNSON, SOPHIE E. . . .	1902	Jhelum, India.	1888
JOSHEE, ANANDIBAI	1887	Poona, India.	1886
JUDSON, ELIZA E.	1880	Staten Island, N. Y.	1872
KANE, ELIZABETH D. . . .	1909	Kane, Pa.	1883
KANE, HARRIET A.	1896	Kane, Pa.	1885
KEITH, NELLIE L.	1884	Geneva, N. Y.	1871
KELLER, ELIZABETH C. . .	1912	Jamaica Plains, Mass.	1871
KEMP, AGNES	1909	Swarthmore, Pa.	1879
KENDRICK, EMMA J. . . .	1874	Greenfield, Mass.	1873
KING, LUCRETIA	1895	Little Britain, Pa.	1885
KOLLOCK, KATHERINE . . .	1915	Philadelphia, Pa.	1887

Name.	Date of death.	Residence.	Class.
LENTZ, LEOTOS	1914	Philadelphia, Pa.	1914
LILLIBRIDGE, ALICE	1912	Scranton, Pa.	1900
LONGSHORE-**Potts**, ANNA H. .	1912	San Diego, Cal.	1852
LORD, HELEN A.	1900	Northampton, Mass.	1896
MCCARN-**Craig**, SARAH J. . .	1906	Rochester, N. Y.	1863
MCCLELLAND-**Dunlap**, G. T. .	1893	Leland, Mich.	1881
MCDANIEL, ADDIE H. . . .	1887	Isric. N. H	1881
MARBOURG, W. R. W.	....	Johnstown, Pa.	1869
MARTIN-**Rae**, ADELINE . . .	1899	Pennsylvania.	1893
MELLEN, ELIZABETH S. . . .	....	Philadelphia, Pa.	1859
MILLER, HELEN M. . . .	1911	Cleveland, Ohio.	1884
MINNIS-**Homet**, MARIA . .	1892	Homet Ferry, Pa.	1853
MITCHELL, CHARLOTTE B. . .	1910	Philadelphia, Pa.	1904
MITCHELL, FRANCES G. . . .	....	New York City.	1852
MITCHELL-**Green**, MARY V. .	1911	Swarthmore, Pa.	1883
MITMAN, ELSIE	1886	Freeburg, Pa.	1882
MONVILLE, ELIZABETH G. . .	1909	Philadelphia, Pa.	1909
MOON-**Andrews**, ORIE R. . .	....	Scottsville, Va.	1857
MORGAN, MARTHA	1894	Harrisburg, Pa.	1882
MORGAN, ROSE	1910	Williamsport, Pa.	1895
MUNRO, SARAH R.	1914	Milwaukee, Wis.	1872
MUSSON, EMMA E.	1913	Philadelphia, Pa.	1883
NEEDHAM, ELIZABETH W. . .	1877	Providence, R. I.	1875
NICHOL, RACHEL J.	1881	Zürich, Switzerland.	1879
NIVISON, SAMANTHA S. . . .	1906	Hammonton, N. J.	1855
NORTHROP, KATHERINE . .	1899	Philadelphia, Pa.	1889
NOWELL, MARY ELIZABETH .	1915	Altoona, Pa.	1884
OGDEN, EMMA KATHERINE . .	1916	Detroit, Mich.	1875
O'LEARY, HELEN BARTLETT .	1916	Wollaston, Mass.	1861
OSBORN, MARY E.	1896	Canton, Ohio.	1883
PALMER, EMMA H.	1914	Philadelphia, Pa.	1874
PARRY, SUSAN	1890	Doylestown, Pa.	1858
PATTERSON, ELLA AVERILL .	1914	Philadelphia, Pa.	1901
PAYNE, JANE	1882	Mt. Vernon, Ohio.	1861
PERRY, ALICE CHRISTINE . .	1898	. . . . .	1872
PICOTTE, SUSAN LA FLEACHE .	1915	Walthill, Neb.	1889
POWLES-**Smith**, ELLA . . .	1906	Philadelphia, Pa.	1892
PRATT, MARY	1909	Camden, N. J.	1869
PRESLEY, SOPHIA	1909	Camden, N. J.	1879
PRESTON, ANN	1872	Philadelphia, Pa.	1852
PRICE, AMANDA C.	1881	Eagleville, Pa.	1871
PRICE, HANNAH J.	1915	Harrisburg, Pa.	1881
PRINDLE-**Scobey**, BEULAH M.	1906	Kankakee, Ill.	1892

Name.	Date of death.	Residence.	Class.
PROCTOR, HELEN PASCHALL	1913	Philadelphia, Pa.	1905
PUTNAM-**Jacobi**, MARY	1906	New York City.	1864
RAYMOND, AURELIA F. D.	1886	Syracuse, N. Y.	1864
REYNOLDS, MARY J.	1915	Lake Geneva, Wis.	1861
RICE, ANNIE E.	1884	Washington, D. C.	1883
RICHARDS, EMMA E.	1913	Wyomissing, Pa.	1886
RICHARDSON, IDA E.	1902	Philadelphia, Pa.	1879
RICHARDSON, MARGARET	1909	Norristown, Pa.	1853
ROBINSON, MARY E.	1889	Salem, N. J.	1876
ROBINSON-**Messner**, AGNES B.	1902	Philadelphia, Pa.	1896
ROGERS, PHŒBE A.	1892	Blossburg, Pa.	1883
ROSS, CHARLOTTE WHITEHEAD	1916	Winnipeg, Manitoba.	1875
RUTAN, SARAH J.	1894	Allegheny City, Pa.	1883
SAWIN, MARTHA A.	1866	Massachusetts.	1852
SCARLETT-**Dixon**, MARY J.	1900	Pennsylvania.	1857
SCHULTZE, MATILDA	1896	Cincinnati, Ohio.	1874
SEELYE, MARY T.	1875	Calcutta, India.	1870
SEWARD, SARA C.	1891	Allahabad, India.	1871
SHARPLESS, FRANCES LINTON	1906	West Chester, Pa.	1886
SHATTUCK, ELIZABETH G.	1865	Philadelphia, Pa.	1864
SHEETS-**Mercer**, EUGENIA C.	1900	Pennsylvania.	1876
SKIDELSKY, RACHEL	1909	Philadelphia, Pa.	1894
SMITH, CYNTHIA	1887	Rochester, N. Y.	1869
SMITH-**Wells**, CAROLINE N.	1885	Topeka, Kansas.	1868
SMITH-**Wilder**, M. E.	1892	Spring Lake, N. J.	1855
SPEAKMAN, RACHEL T.	1915	Brookline, Mass.	1861
SPERRY, EDLA	1880	Pittsburgh, Pa.	1871
STACKHOUSE, SUSAN P.	1888	Fallsington, Pa.	1883
STERLING, KATE L. S.	1905	New York.	1886
STEVENSON-**Hawley**, LOUISE F.	1913	Milwaukee, Wis.	1901
STINSON, MARY H.	1889	Norristown, Pa.	1869
STONE, ELSIE P.	1880	Oakland, Cal.	1867
STUBBS, FLORENCE P.	1889	Wilmington, Del.	1881
SUTTON, EMMA	....	Providence, R. I.	1886
SWAIN, CLARA A.	1910	India.	1869
TAYLOR-**Gordon**, JENNIE M.	1898	Malarge, Africa.	1892
THOMAS, ELIZA L. S.	....	Alliance, Ohio.	1855
THOMPSON, HARRIET ADELINE	1913	Bridgeport, Conn.	1893
TOMPKINS, AMELIA	1900	New York.	1864
TOPHAM, MARY	1909	Philadelphia, Pa.	1895
TOWSLEY, MATILDA I.	1915	Kalamazoo, Mich.	1869
TYRRG, ANITA E.	1913	Berkeley, Cal.	1864
TYSON, SARAH FITZWATER	1912	Norristown, Pa.	1889

Name.	Date of death.	Residence.	Class.
UNDERWOOD, CATHERINE J.	1873	New York.	1859
VINCENT, CHARITY J.	1902	Allegheny, Pa.	1882
VAN HORNE, CAROLINE	1914	Englewood, N. J.	1894
VOWLER, MARY G.	1896	Philadelphia, Pa.	1894
WAIDELICH, MARY EVA	1915	Allentown, Pa.	1914
WALTERS, MAUD MARION	1913	Reading, Pa.	1898
WARNER, LUCY MITCHELL	1908	Philadelphia, Pa.	1905
WATSON, ADALINE MARSHALL	1913	Pittsburgh, Pa.	1898
WATSON, EVELYN J.	1907	Chester, Pa.	1902
WAY, PHEBE M.	1876	Baltimore, Md.	1852
WEBB, ELLA S.	1914	St. Paul, Minn.	1885
WESTBROOK, HENRIETTE P.	1909	Philadelphia, Pa.	1880
WHEELER, JESSIE	1915	Salina, Kansas.	1902
WHITAKER, ELLA M.	1881	New Haven, Conn.	1877
WHITE, FRANCES EMILY	1903	Philadelphia, Pa.	1872
WILLETS, MARY	1903	Norristown, Pa.	1881
WILLIAMS, SARAH J.	1909	Becket, Mass.	1871
WILMARTH, PHILA O.	1888	Rodman, N. Y.	1855
WILSON, MARY E.	1898	Lancaster, Pa.	1868
WILSON, PHEBE	....	Hamorton, Pa.	1857
WOLCOTT, GRACE	1915	Heath, Mass.	1884
WOLCOTT, LAURA J. ROSS	1915	Chicago, Ill.	1856
WOOLSTON, HENRIETTA B.	1887	Mt. Holly, N. J.	1877
WYLIE-**Ancutt**, HARRIET A.	1906	Wisconsin.	1866
YOUNG, GEORGIANA E.	1887	Niagara Falls, N. Y.	1878
ZOOK-**Schæffer**, ELLEN E.	1884	Philadelphia, Pa.	1873

INFORMATION FOR MEMBERS

MEMBERSHIP DUES

Life Members	$50.00	
Active Members	2.00	Annually
New Members, just graduated	1.00	the first year
Associate Members	2.00	Annually

Missionaries in the field are exempt from dues.

PUBLICATION OF TRANSACTIONS

The proceedings of the Association will be published as soon as possible after the meetings. A copy of the TRANSACTIONS will be sent to each member of the Association.

Authors may also publish elsewhere, but not before the meetings. All papers subsequently published must mention in footnote, "Read before the Alumnæ Association of the Woman's Medical College of Pennsylvania" (with date of the meeting).

REGISTRATION

All who attend in whatever capacity are invited to register. You will find a desk for this purpose in the lower hall.

ENTERTAINMENT COMMITTEE

The Philadelphia members of the Alumnæ Association will be gland to entertain our visiting Alumnæ during the meetings of the Association. Please notify Chairman of the Entertainment Committee, Dr. Elsie Treichler, 1721 N. 23d St., Phila., not later than five days before the meetings, of your expected attendance.

Applications for membership in the Association should be sent to the Corresponding Secretary, Dr. Caroline Croasdale, 5027 Saul St., Frankford, Phila., who will forward them to the Board of Censors.

Checks in payment of membership dues should be drawn to the Order of Caroline Croasdale, M.D.

PROGRAM

Notice of the desire to present a paper or a demonstration at the next Alumnæ Meeting, June 7 and 8, 1917, must be sent to the Secretary of the Executive Committee, Dr. Martha Tracy, 5138 Wayne Ave., Gtn., Phila., enclosing an abstract or brief account of the proposition. The Executive Committee will dispose of these requests in the order of their receipt. Papers are limited to twenty minutes; discussions to five minutes.

Each speaker who desires to edit her remarks will be furnished with a typewritten copy of the stenographer's report. If this is not returned by a date (to be specified) the Executive Committee will complete this work. All reports and papers presented to the Association should be typewritten, and must be left with the Recording Secretary at the close of the session.

MINUTES

OF THE

FORTY-FIRST ANNUAL MEETING

OF THE

ALUMNÆ ASSOCIATION

OF THE

WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA

Held in Philadelphia, June 1 and 2, 1916

THURSDAY, JUNE 1.—*Morning Session*

The President, Dr. Elizabeth L. Peck, called the meeting to order Thursday, June 1, 1916, at 10.30 A.M., in the West Lecture Room of the Woman's Medical College.

Business Meeting, 10 *o'clock*

REPORT OF THE RECORDING SECRETARY

Four hundred and seventy-five copies of the Alumnæ TRANSACTIONS for 1915 were published and mailed to our members, active and honorary, and to non-members who read papers at our last session. The greater cost of publication is explained by our increase in membership. More time is required for proof-reading. Paper is higher. The customer pays for the workmen's insurance.

A copy sent to an invalid alumna, a non-member, gave great pleasure.

JACOBINA S. REDDIE,
Recording Secretary.

Report accepted.

Report of the Corresponding Secretary

The correspondence has been promptly attended to. The resignations of Dr. Catherine F. Peckham and Dr. Adelaide Brown, Associate Member, have been received.

In retiring from office, I wish to thank the members for their coöperation and forbearance, which have made the duties a pleasure.

Mary Buchanan,
Corresponding Secretary.

Report accepted.

Drs. Ellsworth and Lockrey were appointed Auditors.

The report of the Treasurer was read as follows:

Report of the Treasurer

General Account

1915–16		1915–16	
To balance	$176.90	By expenditures	$760.63
Receipts	740.95	Balance	157.22
	$917.85		$917.85

Life Membership Fund

1915–16		1916	
To balance	$751.59	By transfer of interest to General Account	$27.18
To interest	27.18	Balance	801.59
To Dr. A. Sholey-Knights	50.00		
	$828.77		$828.77

Fellowship Committee

1915–16		1916	
To balance	$25.19	By payment to Alumnæ Fellow	$250.00
To Chairman Fellowship Committee	250.00	Balance	38.46
To interest, permanent Fellowship Fund	13.27		
	$288.46		$288.46

Permanent Fellowship Fund

1915–16		1916	
To balance	$353.04	By transfer to Fellowship Committee	$13.27
Interest	13.27	Balance	353.04
	$366.31		$366.31

The Auditors have examined the account of the Treasurer, Dr. Potter, and found them correct.

Sarah H. Lockrey,
Adelaide Ellsworth,
Auditors.

Report of the Executive Committee

The Executive Committee has held six meetings during the past year, at the residence of the President, Dr. Elizabeth L. Peck. At the first meeting June 24, 1915, the program for the Spring Session was outlined and discussed.

Drs. Peck and Purnell were appointed to draw up resolutions on the death of Dr. Grace Wolcott, Boston, Class of 1884. A copy of the resolutions was sent to Dr. Wolcott's sister, residing at Dedham, Mass.

The Chairmen of Standing Committees were invited to meet with the Executive Committee.

Dr. Bundy reported for the Fellowship Committee. The Report was approved by the Executive Committee, and notices embodying the same printed for distribution.

Respectfully submitted,

Annie L. Conner,
Secretary Executive Committee.

Report accepted.

Report of the Committee on Fellowship

The committee held but one meeting during the year 1915–16.

By a unanimous vote, it was decided to omit the awarding of the Fellowship for one year, in order that the Alumnæ at large might be thus enabled to contribute still more generously to the College Endowment Fund, toward the increasing of which a special effort will be made throughout the present year. It was also voted that a special recommendation to this end be suggested to the Executive Committee of the Association.

Elizabeth R. Bundy,
Chairman.

Report accepted.

Report of the Library Committee

I have only to report that there was no meeting of the Library Committee as such, for the year, as there were no funds available.

Some weeks ago a meeting of the executive board was called at the home of the president, Dr. Peck, at which the chairmen of committees were present. As chairman of the Library Committee I attended and learned it was desirable to place in the library a medical encyclopedia recommended by Dr. Peckham, the cost to be about $50. I thought as there were five members of the committee, if each would undertake to raise $10 of the amount it could easily be done. I wrote to each member of the committee

to this effect and have received a response from one only, Dr. Annie Bartram Hall, who promised to contribute $10 provided the other $40 were raised. I will gladly do the same. This still leaves $30 to be obtained.

LETTIE ALLEN WARD,
Chairman.

Report accepted.

REPORT OF THE COMMITTEE ON NECROLOGY

THE Committee on Necrology reports the death of the following Alumnæ: Drs. Julia W. Carpenter, Eliza J. Zimmerman Burnside, Mary Elizabeth Nowell, Hanna J. Price, Mary Eva Waidelich, Susan La Flesche Picotte, Mary J. Reynolds, Grace Wolcott, Katherine Kollock, Ellen C. Brensinger, Laura J. Ross Wolcott, Eliza Wood Armitage, Charlotte Whitehead Ross, Helen Bartlett O'Leary, Mary E. Blackmar Bruson, Emma Katherine Ogden, Matilda L. Towsley, Jessie Wheeler.

DR. JULIA W. CARPENTER, class of 1870, was president of the Cincinnati Obstetrical Society in 1902, and vice-president of the Cincinnati Academy of Medicine in 1904. Dr. Carpenter died at her home in Walnut Hills, Cincinnati, Ohio, May 23, 1915, aged seventy-four years.

DR. ELIZA J. ZIMMERMAN BURNSIDE, class of 1860, died in Tiffin, Ohio, on May 28, 1915, aged eighty-three years. Dr. Burnside practised for many years in Philadelphia, but when she became somewhat enfeebled by age she retired to her childhood home, where she spent the last few years of her busy life in the enjoyment of family comforts.

DR. MARY ELIZABETH NOWELL, Woman's Medical College of Pennsylvania, 1884; aged seventy-two years. The first woman to engage in general practice in Altoona, Pa., died at her home in that city, June 25, from pneumonia.

DR. HANNA J. PRICE, class of 1881. For many years a practitioner of Chester, Pa., died at the home of her son in Harrisburg, Pa., July 5.

DR. MARY EVA WAIDELICH, Woman's Medical College of Pennsylvania, 1914; aged twenty-five years; died at her home in Allentown, Pa., August 20, from tuberculosis.

Dr. Susan La Flesche Picotte, of Walthill, Neb., died at her home on September 18, aged forty-nine years. She was a daughter of Pierre La Flesche, or Iron Eye, the last of the great chiefs of the Omaha tribe, and had devoted her life to the interests of her tribe, by whom she was regarded as the leader. She was graduated from the Woman's Medical College of Pennsylvania in the class of 1889 and was a member of the Nebraska State Medical Society.

Dr. Mary J. Reynolds, class of 1861, died at Lake Geneva, Wisconsin, on October 22, in her ninety-second year. Dr. Reynolds was the wife of Dr. B. O. Reynolds, a surgeon of the Civil War, and she practised medicine with her husband until his death in the year 1911. She leaves two sons, one of whom is a physician. Dr. Reynolds was a woman of fine character and noble achievement.

Dr. Grace Wolcott. Dr. Grace Wolcott, of Boston, died at Heath, Mass., on November 9, 1915. Dr. Wolcott graduated from the Woman's Medical College of Pennsylvania in 1884, and after further study in Vienna and Paris settled in Boston, Mass.

Dr. Wolcott helped establish the Trinity Dispensary for Women and was also one of the founders of the Vincent Memorial Hospital of Boston. Trinity Dispensary was the first dispensary ever established for evening service, and was opened with the view of providing working women with medical aid without loss to them in time and wages. Later, to give further medical service to these same people, she helped establish the Vincent Memorial Hospital. For over twenty years she gave the most devoted service to both of these institutions, and was always ready with aid and counsel to assist her younger colleagues.

In 1912, Dr. Wolcott retired from her practice in the hospital, and was then appointed consulting physician and a member of the Board of Managers of the Hospital.

One of Dr. Wolcott's greatest contributions to woman's work in medicine was the establishment of an occupational camp for nervous patients at Heath, Massachusetts. The frequency with which some of Boston's best-known men physicians sent her patients testified to her success in dealing with women who needed to be taught a new and better way of life. She inspired young women with a desire to become useful members of society, to live sanely, and to find joy in living in the country and in the study of Nature. She had a radiant personality, and delighted to spend herself in the service of those who came under her fostering care. Deeply religious herself, she was able to interest many patients in the life of the spirit, and to instil confidence and hope in those with whom she came in contact.

Dr. Wolcott was at the time of her death a Fellow of the American Medical Association, a member of the Council of the Massachusetts Medical Society, and consulting physician to the Vincent Memorial Hospital of Boston.

Dr. Katherine Kollock, class of 1887, was instrumental in having medical inspection introduced into the Philadelphia High School for Girls and throughout her life was especially interested in the physical welfare of girls. For thirteen years she was supervisor of medical inspection at the High School for Girls. She died November 17, aged seventy years.

Dr. Ellen C. Brensinger, class of 1885, was also graduated from the Philadelphia College of Pharmacy in 1887. She practised medicine in Philadelphia for several years, but later devoted herself to pharmacy. She served as druggist at the Medico-Chirurgical Hospital for six years. Dr. Brensinger died suddenly from heart disease, December 5, aged sixty-nine years.

Dr. Laura J. Ross Wolcott, Woman's Medical College of Pennsylvania, 1856, aged eighty-two years, said to have been the third woman in the United States to receive a degree in medicine, died at her home in Chicago, December 8.

Dr. Eliza Wood Armitage, class of 1870, practised medicine for a short time. She was the widow of Henry W. Armitage and spent the last year of her life at the Friends Boarding Home, Kennett Square, Pa. She died January 28, aged eighty-four years.

Dr. Charlotte Whitehead Ross, Winnipeg, Manitoba, class of 1875. The first woman practitioner of Montreal and the first physician in the Whitemouth River District of Manitoba; died at her home in Winnipeg, February 21, from arteriosclerosis, aged seventy-three years.

(Dr. Clara Marshall put in the hands of the Necrology Committee a letter written by Dr. Ross in June, 1913. This letter contained the following account of Dr. Ross's busy life in the lumber regions:

"I have been in active practice ever since I graduated with the exception of four years. I have been in Whitemouth for thirty years, constantly at work—out in all kinds of weather, and in all sorts of conveyances, sometimes on hand-cars, at others the cab of a locomotive; again in a canoe with a couple of half-breeds to paddle; sometimes wrapped in fur robes, with my trusted ponies flying over the snow, visiting one lumber camp after another; sometimes covering 45 miles a day. Three of my children were born in Whitemouth, but I kept up my professional work through it all. The children are all married and I have 24 grandchildren and 1 great-grandson.

"But what I wanted most to tell you about, is that I had a granddaughter graduate in medicine this spring. She obtained the O'Donnell gold medal

for obstetrics; she took her full five years' course in Manitoba Medical College, being the only woman student when she started.

"My own sons and daughters are all well versed in ordinary medicine and have rendered help many times where a physician was unobtainable, but none of them have chosen medicine as their life-work.")

DR. HELEN BARTLETT O'LEARY, Wollaston, Mass., class of 1861; was professor of anatomy in the Woman's College of Physicians and Surgeons of New York in 1865 and 1866. She died at her home March 4, from senile debility, aged eighty-five years.

DR. MARY E. BLACKMAR BRUSON, aged seventy-four years. Graduate class of 1867, was a general practitioner. Interne and externe of hospital and clinic attached to Philadelphia Medical College. Interne and externe of Drs. Elizabeth and Emily Blackwell's Clinique and New York Infirmary for Women and Children; through them given special advantages of study in Demilt Dispensary, Eye and Ear Infirmary and Orthopedic Clinic. Likewise some European study and College of Pharmacy, New York. Made special study and investigation of hookworm disease and diabetes, and arrived at same conclusion as some late directed investigations long before their study. Died March 19, 1916, at her home in South Jacksonville, Fla.

DR. EMMA KATHERINE OGDEN, Detroit, Mich.; Woman's Medical College of Pennsylvania, 1875; aged seventy-six years; formerly a missionary of the American Board in Madura, India, but for thirty-five years a practitioner of Detroit, Mich., vice-president of the State Pharmaceutical Society, died at her home, April 5, from pneumonia.

DR. MATILDA L. TOWSLEY, Woman's Medical College of Pennsylvania, 1869; member of Michigan State Medical Society, and a pioneer woman practitioner of Kalamazoo, Mich., died at her home in Kalamazoo, April 20, after a long illness, the result of an accident several years ago, aged eighty-four years.

DR. JESSIE WHEELER, Woman's Medical College of Pennsylvania, 1902. Formerly of Sacramento, Cal., but for past nine years a practitioner of Salina, Kan., died in St. Barnabas' Hospital, Salina, from malignant disease, aged forty years.

Respectfully submitted,

MIRIAM M. BUTT,
Chairman.

Report accepted.

Report of the Entertainment Committee

The annual dinner of the Alumnæ Association was held at the Ritz-Carlton Hotel on the evening of June 1, 1916. Dr. Mary Buchanan presided.

Mrs. George A. Piersol, Miss MacDonald (M'liss), Dr. Clara Marshall, Dr. Bertha Connely, Dr. Martha G. K. Schetky, Dr. Marion H. Rea, Dr. Anne Otto responded to toasts.

The following Alumnæ and guests were present: Mrs. George A. Piersol, Miss MacDonald, Dr. Elizabeth L. Peck, Dr. Clara Marshall, Dr. Mary Buchanan, Dr. Martha G. K. Schetky, Dr. Marion H. Rea, Dr. Bertha Connely, Dr. Anne Otto, Dr. Jeanette Sherman, Dr. M. Luise Diez, Dr. Lucia A. Wheeler, Dr. M. Smith-Deming, Dr. Faith Skinner, Dr. Le Maistre, Dr. Louise Larimore, Dr. Ella W. Grim, Dr. Mary R. H. Lewis, Dr. Johanna B. Leo, Dr. Agnes Hockaday, Dr. Margaret Butler, Dr. Mary E. Lapham, Dr. Frances C. Van Gasken, Dr. Mary Miller, Dr. Kate Baldwin, Dr. Viola Erlanger, Dr. Ruth W. Lathrop, Dr. Annie B. Hall, Dr. Mary Danforth, Dr. Gardner-Young, Dr. Clara Bartlett, Dr. Helen Cowie, Dr. Laura Chapin, Dr. Florence H. Richards, Dr. Lambichi, Dr. Whitlock-Rose, Dr. Elizabeth F. C. Clark, Dr. Eveleen Douredoure, Dr. Catharine Macfarlane, Dr. Edna Swalm, Dr. Margaret Warlow, Miss Sarah Naly, Dr. Ida E. Gaston, Dr. M. Summer-Haines, Dr. Anne E. Smiley, Miss Shoemaker, Dr. Annie L. Conner, Dr. Laura Hunt, Dr. Belle A. Schisler, Dr. Elsie Treichler, Dr. Regina Downey, Dr. Williamson, Dr. H. E. Whitehead.

Receipts from dinner tickets		$195.00	
Receipts from luncheon tickets	Thursday	4.95	
	Friday	2.25	
			$202.20
To Hotel Ritz-Carlton		$159.00	
Postage, paper, etc.		2.50	
Music		25.00	
Decorations		10.00	
Fees		11.50	
			208.00
Deficit			$5.80

M. Luise Diez,
Chairman.

Report accepted.

Report of the Board of Censors

New Members

Name.	Address.	Class.
Connely, Bertha L.,	Philadelphia, Pa.	1897
Danforth, Mary,	95 Federal St., New London, Conn.	1916
Dranga, Amelia A.,	5816 Callowhill St., Pittsburgh, Pa.	1897
Israel-Glink, Clara T.,	2121 Peters Ave., New Orleans, La.	1896
Greaves, Blanche F.,	750 S. 53d St., Philadelphia, Pa.	1895
Lambichi, Mariki,	1207 N. 25th St., Philadelphia, Pa.	1916
Lawney, Josephine,	Reedsboro, Vermont	1916
McKee, Jennie M.,	Birmingham, Iowa	1916
Skinner, Julia Faith,	Kingsville, Texas	1916
Spencer, Sylvia D.,	1121 Spruce St., Philadelphia, Pa.	1916
Tankersley, Grace,	1801 Olive St., Pine Bluff, Ark.	1916
Vogt, Marnetta E.,	2121 N. College Ave., Woman's College Hospital, Philadelphia, Pa.	1916
Weintraub-Barnett, Rose Lillian,	1822 Erie Ave., Phila., Pa.	1916
Williamson, Carolyne Gay,	315 West 95th St., New York City	1916

Life Member

Sholly-Knights, Agnes,	Shamokin, Pa.	1897

Report accepted.

Report of Alumnæ Representative

I am very glad to report that during the past year the Board of Corporators has taken action admitting two alumnæ representatives to membership in the Board without qualifications as to their place of residence. I have always advocated such action in the Board and am happy that the way is now clear for the Alumnæ to choose representatives one or both of whom may be residents of Philadelphia. Reference to the Transactions of this Association will show that I have once resigned from the Board of Corporators, and that my resignation has always been in the hands of this Association. At the request of the Board of Corporators I reconsidered the resignation and remained on the Board solely so that the Association should have representation. I rejoice today that I may now be relieved from duties which have always been a pleasure, but which I have discharged often at great personal inconvenience. It has been an honor and a privilege to have served you. It has been a pleasure and privilege to have shared in the deliberations of the Board of Corporators. My resignation has been accepted to take effect when my successors are chosen. For them I bespeak your cordial support and coöperation. For myself I desire to thank you for bearing with me so long and so patiently.

Lilian Welsh.

Report accepted.

Dr. Bundy moved that the Association take this opportunity to give by vote to Dr. Welsh an appreciation of her services as a long and faithful Alumnæ Corporator, with the regret that they must cease now by her own decision.

The motion was carried.

Morning session adjourned.

Scientific Meeting, 12 *o'clock*

President's Address (see page 63).

Reports of Alumnæ Fellows by Drs. Conover and Myers (see pages 48 and 49).

Papers by Dr. Macfarlane and Dr. Lapham (see pages 67 and 73).

Scientific Meeting, 2 *o'clock*

Paper by Drs. Tracy and Croasdale (see page 77).

Paper by Dr. Corson-White (see page 87).

Paper by Dr. von Poswik (see page 89).

Afternoon session adjourned.

Friday, June 2.—*Morning Session*

Business Meeting, 10 *o'clock*

REPORT OF SPECIAL COMMITTEES

Report of Publicity Committee

During the past season, publicity has been subservient, in some degree, to endowment. Nevertheless, we have not been inactive in pressing the College upon the notice of the general public and upon groups of people whom we have had opportunity to address. We have continued to employ the valuable services of the American Bureau of Publicity.

The movement for lectures on Health Problems originated in the efforts of the Publicity Committee. The presentation of the bas relief offered good material for newspaper publicity, and we have sent out what is known as a syndicated article to papers in the chief cities of the country. The Committee helped to arrange a meeting in the Arch Street Methodist Church, addressed by Dr. Mary Stone, an eminent Chinese physician. The College was well represented by Faculty and alumnæ who marched in cap and gown following a banner borne by the President of the Students' Association. It was a remarkable meeting, and Dr. Stone expressed herself as sincerely complimented by the occasion. The Committee also coöperated in arrangements for an honorary

dinner to Dr. S. Josephine Baker of New York City. This occasion was a great success and won new friends for the College as well as considerable newspaper notice. The Committee has, furthermore, coöperated in the College exhibit now in progress at the Civic Exposition known as "Philadelphia Today and Tomorrow."

As representative of the Committee I have addressed the students at the Connecticut College for Women, the Woman's Club at Salem, N. J., the College Club, the Wellesley Club, the Philadelphia High School for Girls, the Jewish Sisterhood and a meeting of ministers.

We wish that we could do much more in the interests of publicity than is possible with our limited financial resources and our few workers, for we sincerely believe that "it pays to advertise."

We enjoy the active coöperation of several alumnæ living at a distance. The coöperating alumnæ are represented by the red dots on the map (map displayed). There are about one hundred, chiefly in eastern States. Articles are sent to these alumnæ from time to time, and many local papers have published the articles, thus bringing the College to the direct notice of committees served by our graduates.

Another phase of the activity of the Publicity Committee is that of obtaining students by personal endeavor. We now have in "leading strings," so to speak, at least half a dozen promising young women. We do not merely *encourage* inquiring young women, we *search* for them. And in this work we need the active interest and help of every alumna. If every alumna would make a point of setting forth to young women whom she may meet the opportunities and advantages of the medical profession as a life work for women, our student body would grow apace. Medical students, both men and women, have decreased to a great extent during the past decade, and medical colleges, including our own, are temporarily embarrassed during a period when readjustment to advanced entrance requirements is in progress. Let us combat this difficulty and overcome it by personal endeavor to enlarge our number of students and to find means to educate promising women who need financial assistance.

GERTRUDE A. WALKER,
Chairman.

Report accepted.

REPORT OF THE CAMPAIGN COMMITTEE

Last October the Campaign Committee began its active efforts to secure additional endowment, taking up the work already initiated by others, notably Dr. Jones and Dr. Hillman. An

executive committee consisting of five physicians and two lay members, and augmented by the presence and counsel of the Dean *ex-officio*, undertook the management of details, reporting as often as possible to the general committee.

Since campaigning was an untried field for everyone of us, and since, moreover, we were keenly conscious of the fact that we were administrating funds that represented sacrifice on the part of many of our local alumnæ, we proceeded with caution and deliberation. From the first we recognized the advantages of the short term or "whirlwind" campaign, but thought it best to feel our way to the purse of the public rather than to make a sudden demand upon it. Mr. Vauclain underwrote the expenses of the campaign to the extent of $5000, but the alumnæ of Philadelphia and immediate vicinity felt that they should assume the expenses so far as possible. The faithful and tactful efforts of Dr. Hall and her committee enabled us to carry the campaign forward throughout the winter and early spring. In April we decided to attempt a short-term campaign, for we considered that the public were already reasonably informed of our needs, we had gotten all the publicity possible for an object which had no dramatic importance as news and we were afraid of tiring the public by a too long drawn out appeal and also by wearying our friends by a too insistent drain upon their helpfulness as workers for the cause. Mr. Vauclain renewed his offer of aid to the extent of $5000, and with this assurance we at once enlarged our office force, took more rooms adjacent to those we had occupied as headquarters all winter, contracted for the services of an expert campaigner and for those of a skilled publicity agent. Our previous organization helped us in framing our new policies, but a great many fresh elements were at once introduced and we found ourselves swamped by a burden of added responsibility. We were already tired because of the unremitting toil of the winter, nevertheless we gathered up our energies and braced our enthusiasm for the short, sharp pull, much like the athlete who strains for success in the last lap of the race. Our leader, Mrs. Currier, rapidly caught the spirit and force of our appeal. It is her business to think and act quickly, and in an incredibly short time she had immersed herself in what she called our "proposition" and had come to feel, with us, that our cause was the best and biggest thing discoverable upon the educational horizon. We are so universal, so humanitarian, so essential, that it seemed the merest touch upon the intelligence and sympathy of the public would result in transfer of large sums from their treasury to ours. But it is not an easy task to raise half a million of dollars, even in these

days when there is so much glib talk in large figures. The sum looks larger to us than it did a year ago, and the hard work necessary to obtain it is fully comprehended by those who have the prospect most at heart.

A fine list of 3500 names had been compiled, we had organized 100 volunteer workers, we had made a beginning in our publicity, we had secured the coöperation of men and women of importance in the community, when suddenly we were confronted by questions which were too serious to ignore. Was Philadelphia sick of campaigns? Some recent examples suggested this, notably the Preparedness Campaign which was backed by wealthy people and organized on a big scale, with an objective of $500,000 and a return of about $60,000. Was the time of year inauspicious, would our friends welcome a postponement until autumn, would our alumnæ be glad of a longer period for preparation? A rapid survey of the situation convinced us that postponement would be wise, in view of evidences which were the result of our renewed efforts and which could not therefore have been foreseen. We voted to defer the active campaign, we gave up our offices at once, we entered into an agreement with our leader to take up the project in the fall, and we are now continuing to build upon the foundation already laid. The work that has been done is not by any means lost. Our list is ready, our organization partially formed and our courage is untouched. It is our present task to collect all the funds possible to serve as a nest-egg for the campaign. The larger the sum in hand before the campaign opens, the larger the sum we can reasonably set as the final goal. For example, if we have in hand $50,000 at the start, we would be quite confident in setting our mark at $200,000; if we had $75,000, or $100,000, we can ask for $250,000 or $350,000. We want 400 workers of good caliber; we want every alumna to save her time, energy, influence and money for this supreme effort in the fall. During the summer talk all you can about the College, you will gather enthusiasm for your alma mater as you make new friends for it. Follow up any clew to money or aid of any kind. Send to us any suggestions that occur to you. Ideas are frequently convertible into coin.

The committee has thought in terms of the dollar for many months; it has measured people chiefly by their ability to give money. We have been in great danger of growing sordid. Do you think this is congenial work? Do you think we enjoy this concentration of mind and heart upon questions of finance?

If it were not for the glorious object beyond and above, if it were not for the pure ideal that continually beckons us, we should

be doing other things. But, as Dr. Van Gasken aptly puts it, our consciences will not *allow* us to neglect the duty that stares us in the face. We mean to stick at our work until it is finished; we are dogged about it. Those of us who are the storm centre of the movement have nothing personal to gain. Dr. Mary Brown, our efficient secretary, has no aspirations beyond a loyal desire for the continuance and prosperity of her alma mater, to whose resources she has personally contributed with great generosity, Dr. Van Gasken, our faithful treasurer, has only the good of the College in mind, asking no honors and accepting only such as are urged upon her by her professional associates. Dr. Hillman, identified with a well-directed and productive earlier effort to add to the endowment, devoted, resourceful, sacrificing the delights of her home to the demands of the work now in hand; Dr. Marie L. Bauer, straining every nerve to further the interests of the project even to the detriment of her practice; Miss Francis eager to contribute her advise and aid, both of which are of great service, and Miss Edith Elizabeth Fales, who at the beginning was half afraid to commit herself to the unfamiliar cause of the College and the woman physician, but who is now our enthusiastic, tireless and altogether splendid friend. The committee is knit together by indissoluble ties. We are not only associates in work, we are comrades and friends. We stand as a unit, not as individuals. We are committed to a great task, and we propose to see it through.

Will the alumnæ, especially those in Philadelphia, stand by the Committee? We need and expect your loyal support. After all, this is work for the alumnæ—not for the corporators, they are trustees, administrators, governors; not for the faculty, they have their hands fully occupied with the affairs of teaching and the necessity for meeting pressing requirements on the part of the State. The corporators and faculty encourage and help the Committee in the labor for endowment. But neither body can take initiative in obtaining money and should not be expected to do so. The alumnæ are, after all, the backbone of the College. If the backbone fails us we shall be unable to stand upright. The success of our endeavors depends almost entirely, indeed I may say *entirely*, upon the loyalty and efforts of the alumnæ. Concerted action on the part of the alumnæ is capable of producing large results. Now is the time to show your faith in your alma mater and your gratitude to her. Now is the time to pay back to her a portion of the actual financial assistance given you by her in providing for you an education that otherwise would have been unpurchasable and, indeed, unobtainable. We who are working now are working for the future. Our undergraduates recognize

this and appreciate it, I believe, more than the average alumna. The coming woman physician depends upon us to preserve for her an institution which is truly indispensable to her highest interests. We, the alumnæ of this College, have "a charge to keep."

The by-products of the campaign are numerous and valuable. Alumnæ have been heard from who have not been in touch with the College for many years. Lukewarm loyalty has been fanned into flame, old friends and new have been discovered. When the first decision of the Corporators to refuse a recent request of the Graduate Council for additional and unrestricted representation became known to the Campaign Committee, we at once concerned ourselves as a body, voted to send our formal protest to the executive committee of the Board of Corporators, and wrote a vigorous letter stating our disappointment and requesting a reconsideration of the vote in the interests of the united efforts of the alumnæ in the present campaign. We rejoice that reconsideration has crowned the united efforts of the Graduate Council and Campaign Committee, and now urge the alumnæ who have been waiting for some assurance of confidence on the part of the Corporators to join us in our efforts to save the College and add to its equipment. The College is the background of all our professional activities; it is the mother of women's hospitals here and elsewhere. Alumnæ of other medical institutions are helping us; the New York State Association of Medical Women at their recent meeting in Saratoga voted a contribution to our endowment fund. If others believe so heartily in us, shall we not believe in ourselves? Shall we not stand in unbroken file for the prosperity of the great and good institution to which we all owe more than it is possible to repay?

GERTRUDE A. WALKER,
Chairman.

Report accepted.

FINANCIAL STATEMENT OF THE CAMPAIGN PROMOTION FUND

Total amount received	$5552.57
Through Dr. Annie Bartram Hall, Chairman of the Promotion Fund	1531.61
From a play managed by Dr. Hillman	225.00
From lectures given by Dr. Hartley	42.25
Raised by the Executive Committee	1128.72
From Mr. Vauclain, through Dr. Marshall	2500.00

FRANCES C. VAN GASKEN,
Treasurer.

Report accepted.

Revision of the Constitution and By-Laws

CONSTITUTION

Article III—Membership

Sec. 2. (To be inserted).

Any one eligible to membership in the Alumnæ Association may become a life member of the Association upon the payment of fifty dollars.

Sec. 2. To become Sec. 3.

Alumnæ of other regular medical colleges may, on the recommendation of the Board of Censors, together with a two-thirds vote of the active members present at any regular meeting, become associate members of this organization.

Sec. 3. To become Sec. 4.

Any woman of eminence who has promoted the advancement of women in the medical profession, may, by a two-thirds vote of all active members present at any regular meeting, notice having previously been given, be elected an honorary member of this organization. The number of honorary members shall be limited to twenty-five.

Article IV—Officers

Sec. 1. The officers of this Association shall be a President, a Vice-President, a Recording Secretary, a Corresponding Secretary, a Treasurer, and a Board of fifteen Censors.

Sec. 2. The President, the Vice-President, the Secretaries, the Treasurer, and the Chairmen of the Standing Committees shall constitute the Executive Board.

Sec. 3. Election of Executive Board, omitted. (Provided for in Article XIII of By-Laws.)

Sec. 4. Board of Directors, omitted.

Sec. 5. To become Sec. 3.

The Board of Censors of this Association shall consist of fifteen members, to be elected as follows: three to serve one year, three to serve two years, three to serve three years, three to serve four years, and three to serve five years, and thereafter three to be elected each year for the term of five years, to take the place of those whose terms have expired.

Article V—Meetings

The stated meetings of this Association shall be held annually in the College building in Philadelphia, on the two days *following* the annual commencement.

Substitute "preceding" for "following."

BY-LAWS

Article III—Vice-president

The Vice-President shall assist the President in the discharge of her duties, and in her absence shall preside at the meetings of the Association. She shall also act as Secretary of the Executive Board.

Article IX—Standing Committees

Sec. 1. There shall be six Standing Committees of five members each, one member of each committee being elected and one retiring yearly:

1. A Committee on Library.
2. A Committee on Fellowship.
3. A Committee on Necrology.
4. A Committee on Entertainment.
5. A Committee on Alumnæ Representation.
6. A Committee on Membership.

Sec. 2. The Executive Board. Board of Censors and the Standing Committees shall meet in *June*, subsequent to the annual meeting, to organize; and as often thereafter as may be necessary to transact the business referred to them by the Association. The Executive Board shall keep regular minutes of its proceedings.

Article X—Duties of Standing Committees

Sec. 2. The Committee on Education, omitted.

Sec. 3, 4, 5, 6 become respectively Sec. 2, 3, 4, 5.

Sec. 2. The Committee on Fellowship shall receive all funds paid to it and keep an account thereof, but shall immediately transfer such funds to the Treasurer of tbe Association, retaining the right, nevertheless, to direct their expenditures.

Sec. 3. The Committee on Necrology shall annually report the deaths of all Alumnæ of the Woman's Medical College of Pennsylvania in good professional standing, that have occurred during the preceding year. It shall, as fully as possible, report on the life and work of all deceased members of the Alumnæ Association that have occurred since the last meeting.

Sec. 4. The Committee on Entertainment shall provide for the entertainment of the visiting alumnæ. It shall provide and have charge of the annual lunches given at the College, and arrange the program for and have full charge of the annual banquet.

Sec. 5. The Committee on Alumnæ Representation, to be defined later.

Sec. 6. The Committee on Membership shall keep a complete register of the Alumnæ of the College and shall endeavor to bring all of the Alumnæ into the Association.

Article XII—Associate and Honorary Members

Sec. 1. An alumna of another regular medical college desiring to become an associate member must have her written application endorsed by three members personally acquainted with her and not on the Board of Censors. On recommendation of the Board of Censors and a two-thirds vote of the active members present she shall become an associate member.

Associate members may read papers and take part in discussions at the regular meetings. They shall be exempt from all active duties, but shall pay the same annual dues as active members.

Honorary members may read papers and take part in the discussion at the regular meetings. They shall be exempt from all active duties and from the payment of dues.

Article XIII—Elections

Sec. 1. On the second day of the stated meeting following the announcement of elections, a Nominating Committee of five members, *one of whom shall be a member of the Executive Board*, shall be appointed from the floor to serve for the ensuing year.

Sec. 3. Not later than April 15 of each year the Nominating Committee shall file with the Recording Secretary a copy of a ticket of candidates for the following offices: President, Vice-President, Recording Secretary, Corresponding Secretary, Treasurer, three Censors, and one

member for each of the Standing Committees.

The name of no person shall be placed upon the ticket of candidates who has not given her consent to serve if elected.

SEC 4. Not later than May 1 of each year, the Nominating Committee shall mail to each active member of the Association a printed ballot slip, presenting two nominations for each office to be filled at the coming meeting of the Association. To such slip shall be attached full directions for voting.

SEC. 5. Any ten active members of the Association may nominate a candidate for any office, such name to appear on the official ballot, provided that they have obtained the consent of the candidate to serve if elected, and that they sign the nomination and file it with the Chairman of the Nominating Committee before April 15.

SEC. 6. In voting, each member shall erase the names of those for whom she does not intend to vote, and no ballot shall be legal if, when cast, it contains more names than there are places to be filled.

SEC. 6, 7, 8, 9 become respectively SEC. 7, 8, 9, 10.

SEC. 7. Elections shall close at 12 o'clock noon on the second day of the Annual Meeting of the Association.

SEC. 8. Members of the Association whose dues are in arrears are not qualified to vote nor to be candidate for office.

SEC. 9. No votes shall be considered valid which are not returned in proper form upon the official ballot slip, in the ballot envelopes provided, and in outside envelope endorsed with the name of the voter.

SEC. 10. On the second day of the Annual Meeting, at an hour and place previously designated by their chairman, the Nominating Committee, as Tellers of Election, shall meet and shall count all legal votes that have been received by mail or placed in the ballot box at the hall of meeting before 12 noon on the second day of the Annual Meeting; and when the count is completed they shall report to the presiding officer of the Annual Meeting the total number of votes cast, together with the number of votes received by each candidate. Thereupon the presiding officer shall announce the names of the candidates who have received a plurality of votes for each office, and shall declare them elected officers of the Association for the ensuing terms.

The above sections were taken up separately and voted upon, and were accepted, with the exception of Article V. Upon motion it was voted that this amendment be omitted, Article V to remain as originally stated.

Dr. Jones moved that Section V of Article IX be omitted. The motion was lost.

Dr. Thomas brought before the Association for final decision previously stated motions (1) to the effect that missionaries in the field be exempt from payment of annual dues, and (2) that the annual dues the first year after graduation be $1.00 instead of $2.00. These motions carried, and it was ordered that they be incorporated as additional sections under Article XIV of the By-Laws (Dues).

PRELIMINARY REPORT OF ALUMNÆ FELLOW

I send my greetings to the Alumnæ Association of the Woman's Medical College of Pennsylvania, and wish to express my appreciation of the honor conferred upon me and my sincere gratitude for this splendid opportunity to study.

The past two months have been spent in the study of frozen sections and frozen technique in the Laboratory of the Cornell University Medical School in New York City. The work was done under the direction of Charles R. Stockard, Professor of Anatomy at Cornell. Frozen sections were prepared and careful studies and drawings made of every section. These studies were very instructive and exceedingly interesting and will prove of great value to me in my work in the Department of Anatomy.

In conjunction with these studies Dr. Stockard gave informal lectures in which he surveyed briefly the field of anatomy and its great possibilities for investigation and research. He also outlined a course of reading and told of the method of teaching anatomy at Cornell and the manner of preserving cadavers. These lectures were stimulating and inspiring, and filled me with an eagerness to know more of the "known" and to explore the great "unknown."

On June 1 I shall begin my work at Harvard in microscopic anatomy and embryology, a report of which will be given next year.

Again I thank you, Madam President and Members of the Alumnæ Association, for this valued opportunity to increase my efficiency as a member of the Department of Anatomy.

ANNA ELEANORE CONOVER.

REPORT OF THE ALUMNÆ FELLOW

BY MAE LICHTENWALNER–MYERS

I am very glad for this opportunity to make my final report and trust that I may prove, by my work in the college, my deep appreciation of the opportunities which you have made possible. Following my work at Cornell University Medical School, as reported last year, I left for the Marine Biological Laboratory at Woods Hole early in June.

Woods Hole, in southeastern Massachusetts, is beautifully situated on the north shore of Vineyard Sound at the entrance of Buzzard's Bay. The winter colony is small, perhaps only 300 to 400, so that the summer transients to laboratories and surrounding estates must come as a most welcome wave of prosperity to this little village. The United States Bureau of Fisheries and the Rockefeller Institute of Medical Research have stations here.

The M. B. L., in which I have been especially interested, was opened in the summer of 1888. Four departments are now organized for research and instruction, namely, in zoölogy, embryology, physiology, and botany. The laboratory consists of

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MAR 31 1919
LIBRARY

a four-story brick building and three two-story wooden buildings. The supply department is housed in a separate stone building. Other buildings are a mess hall, two dormitories, and a club house. There are 76 private rooms and 30 tables for the use of investigators. Each room is provided with running fresh and sea-water, electricity, and gas. In 1914 there were 39 colleages and universities which contributed by subscription for the support of rooms or tables in the laboratory. In my class of 42 there were 37 colleges represented.

The supply department is well equipped with boats, steam launch, motor boats, and a number of row boats. An efficient crew uses dredges, tangles, trawls, and tow nets, and collects daily material for the research and class work. Mr. Gray, the curator, makes rounds daily for orders, and the material, if at all obtainable, is on one's desk the next morning.

The atmosphere in general is most democratic. Everyone is there for the same general purpose. You see and meet the men and women whose work you are interested in. You are given a cordial welcome to various investigators' rooms, in order to watch their special methods and note their mode of procedure in handling the problems as they present themselves. The good fellowship and geniality resulting from dining at one table is well known to everybody.

The evening lectures, the lectures of the regular courses of instruction, are open to everyone. Time will not allow for a synopsis of many of these, all were exceedingly interesting. Dr. Gary Calkins presented a most interesting paper on feeding experiments relative to the cancer problem. He believes that by feeding unicellular organisms with a cancer pulp the results can be obtained and more easily studied in these one-celled living organisms than from the more complex tissues of higher forms. Another line that might be noted was that done by Dr. C. Wimmer, of Princeton. He is working on hydrocephalus. He believes that this condition is brought about by toxins produced in kidney conditions and transmitted by mother to child. His work is to artificially produce hydrocephalus in fishes. He adds to sea-water various toxic products, follows the development carefully to free-swimming larvæ, and in many cases thinks he has produced a marked hydrocephalus.

Of the so-called popular lectures Dr. G. H. Parker's illustrated one stands out prominently. Dr. Parker was one of three appointed by the U. S. Government to investigate seal herds of two Alaskan islands. His methods were most interesting and his descriptions of places and conditions from the medical point of view thrilled one with a real missionary spirit.

I need only suggest the rare treat afforded us by Dr. Jacques Loeb's lectures. To these everybody flocked. His brilliant and unique attack of problems; his clever and logical deductions left us all thrilled and eager to do something.

The course in embryology was given this year by a staff of five; Dr. William E. Kellicott, Professor of Biology at Goucher, was in charge.

The eggs available at the season and the eggs which we studied were the annelida (worms), certain crustaceans, the echinodermata, star fish and sea urchin, the mollusca and, as a chordate type, the teleost, the fundulus (minnow) and the cunner. In each of these forms we studied maturation stages, fertilization, cleavage planes, and steps in the development of the free-swimming larvæ. Some eggs are particularly beautiful for study, for example the star fish and sea urchin. It was at once clearly evident that we were not working with red and blue stained dead cells, but actual living cells. Things were happening each minute and to note each change was fascinating in the extreme. The changes in mature and immature eggs, the changes in the fertilized and unfertilized eggs were noted. In the unfertilized egg there was a marked migration of protoplasmic granules to the vegetative pole the minute the sperm solution was added. In some eggs a marked membrane appears. Then, too, this membrane can be produced artificially by treatment first with 50 c.c. of sea H_2O and 2 c.c. $\frac{N}{10}$ butyric acid for 2 min., and then with hypotonic sea-water. Dr. Loeb claims that by the chemical analysis of fertilization the sperm does three things: (1) causation of development; (2) saves life of egg; (3) carries the paternal inherited instincts.

Carefully watching the eggs, we noticed that in from twenty minutes to one and a half hours after the fertilization the ova give off a small polar body; in about ten minutes another would bulge and free itself from the surface. The first polar body may divide, so that often three small polar bodies were visible on the surface and just beneath the membrane. The first plane of cleavage is determined by the position of the polar bodies. The second cleavage plane follows at intervals of from five to ten minutes until the morula is formed. In certain eggs the second quartet of cells are given off clockwise and the third quartette counter clockwise. These experiments repeated again and again show conclusively that each species is governed by some law of symmetry and that these planes and their lineage can be traced, the regularity being unalterable in the normal. The eggs are then carefully watched and fresh sea-water given them daily, and in some forms in forty-eight hours there were free-swimming, self-feeding larvæ.

The alimentary tract is clearly defined, contracting at intervals and in some cases showing ingested food globules.

The routine of class work would not allow for much experimental work, although I am sure that the staff by their numerous suggestions implanted a real zeal for investigation. This zeal was in the very air, and in embryology especially the "harvest is indeed plenteous and the laborers comparatively few." I thank you.

Report accepted.

On motion of Dr. Van Gasken it was ordered that the Association send to Dr. Rosalie Slaughter Morton an appreciation of her gift of a beautiful bas relief to the College and to the Alumnæ, and that they extend to her their good wishes in her work and her journey to Serbia.

Dr. Van Gasken moved that the Alumnæ Association express to the Board of Corporators its appreciation of their recent action in accepting a second Alumnæ Representative on the Board, and at the same time removing the restriction applying to resident graduates.

Carried, by a rising vote.

Report of the Graduate Council

As stated in its charter, the object of the Council shall be: "To advance the interests, influence, and efficiency of the Woman's Medical College of Pennsylvania; to strengthen the relations between the Alumnæ and the College; to encourage efficient class organization; to disseminate such information to the Alumnæ and public with regard to the College as may be deemed best; to aid and assist in the establishment of alumnæ associations and promote their interests; to provide funds, so far as possible, for the maintenance and endowment of the College from its alumnæ and friends; to report from time to time to the Board of Corporators of the College any facts and recommendations by the Council deemed material or for the interests of the College; to act as the medium through which the Alumnæ Representatives on the Board of Corporators shall be nominated; to act as a medium that may make known the ideas of the alumnæ to the Corporators and the wishes of the Corporators to the alumnæ."

"The Graduate Council shall be composed of one representative from each of the thirty-five classes last graduated and fifteen members at large."

The present membership of the Graduate Council is as follows:

MEMBERS OF GRADUATE COUNCIL

1870.	Dr. Anna Lukens	Member at large
1882.	Dr. Ida Virginia Reel	Class representative
1883.	Dr. Emma Putnam	Class representative
1884.	Dr. Florence M. Sibley-Lee	Charter member
1884.	Dr. Alice Rogers-Easby	Class representative
1885.	Dr. Elizabeth L. Peck	Class representative
1886.	Dr. Lucy N. Tappan	Class representative
1887.	Dr. Caroline M. Purnell	Class representative
1887.	Dr. Eleanor C. Jones	Charter member
1888.		
1889.	Dr. Lilian Welsh	Class representative
1890.	Dr. Marie L. Bauer	Charter member
1890.	Dr. Frances C. Van Gasken	Member at large
1891.	Dr. Margaret P. Forcee-Kuyk	Class representative
1892.	Dr. Gertrude A. Walker	Class representative
1893.	Dr. Bertha Lewis	Charter member
1894.	Dr. Margaret F. Butler	Class representative
1895.	Dr. Edith Hedges Matzke	Class representative
1896.	Dr. Mary H. Smith	Class representative
1897.	Dr. Clara Fitzgerald	Class representative
1897.	Dr. Johanna B. Leo	Charter member
1898.	Dr. Catharine Macfarlane	Charter member
1898.	Dr. Lucia A. Wheeler	Class representative
1899.	Dr. Florence H. Richards	Class representative
1900.	Dr. Mary E. Lapham	Class representative
1901.	Dr. Mary G. Haskins	Class representative
1902.	Dr. Hannah Hunsicker	Class representative
1903.	Dr. M. Luis Diez	Class representative
1903.	Dr. Helen F. Upham	Member at large
1904.	Dr. Mary P. S. Rupert	Member at large
1904.	Dr. Martha Tracy	Class representative
1905.	Dr. Blanca Hillman, H.	Charter member
1905.	Dr. Lucinda B. Hatch	Member at large
1906.	Dr. Esther M. Weyl	Class representative
1907.	Dr. Esther Jefferis	Member at large
1908.	Dr. Harriet I. Evans	Class representative
1908.	Dr. Maud M. Rees	Charter member
1909.	Dr. Wilhelmina A. Ragland	Class representative
1909.	Dr. Elizabeth F. C. Clark	Charter member
1910.	Dr. Ann Tompkins Gibson	Class representative
1911.	Dr. Maria P. Ryan	Class representative
1912.	Dr. Alma R. Read-Derick	Class representative
1912.	Dr. Mary G. Knowles	Charter member
1913.	Dr. Alice H. Cook	Class representative
1914.	Dr. Elise Whitlock-Rose	Member at large
1914.	Dr. Caroline Croasdale	Class representative
1915.	Dr. Mary T. Mason	Class representative
1916.	Dr. Marnetta Vogt	Class representative

The sixth regular meeting of the Graduate Council was held May 31, 1916, twenty-eight members being present.

During the past year the Finance Committee has been active raising money as heretofore by the method of class collections.

Of the money so raised the sum of $450.00 was presented to the Board of Corporators in January, 1916, "to be used for the current expenses of the College, particularly in the direction of publicity;" at yesterday's meeting it was voted that the sum of $500.00 be turned over to the Board of Corporators to be applied to the Emma E. Musson Lectureship Fund.

The special committee on Alumnæ Representation, consisting of Doctors Peck, Tracy, and Macfarlane, report that the Board of Corporators of the College have voted to grant the alumnæ "a representation of two members on their Board, one of whom may reside in Philadelphia or vicinity." In a communication addressed by this committee to the Board of Corporators, under date of October 4, 1915, the following statement was made:

"Each year the Graduate Council appeals to the alumnæ body for financial aid for the College and if a favorable action upon the above resolution" (referring to increased alumnæ representation and the removal of the restriction against a Philadelphia alumna representative) "could be reported to the Council at its next meeting, we believe that not only would the interest of the alumnæ be stimulated, but that their material aid would be increased."

Let us all do our best to make this prediction come true.

CATHARINE MACFARLANE.

Report accepted.

Morning session adjourned.

Scientific Meeting, 11 *o'clock*

Paper by Dr. Ellen E. Brown (see page 93).
Paper by Dr. Elfie R. Graff (see page 97).
Paper by Dr. Julia Hardin (see page 103).
Report of Woman's Medical College of Pennsylvania (see page 57).
Scientific meeting adjourned.

AFTERNOON SESSION—*Friday, June* 2, 1916

Business Meeting, 2 *o'clock*

REPORT OF ELECTIONS

The tellers reported that Dr. Van Gasken and Dr. Buchanan had each received 79 votes.

Upon motion the report of the tellers was accepted.

Upon motion it was decided to determine the election by vote of those whose ballot had not already been cast. Dr. Van Gasken was elected.

The Nominating Committee for 1916–17, appointed from the floor, consisted of Drs. Florence Richards, Alice Easby, Sarah Lockrey, Sibley-Lee, Anne Thomas.

Report on the E. E. Musson Memorial Fund

Dr. Leo made the following presentation to Mrs. Lewis:

It gives me great pleasure on behalf of the Graduate Council of the Woman's Medical College of Pennsylvania to present you with the additional sum of $500.00 toward the E. E. Musson Memorial Fund. As a thrifty warden of the moneys entrusted to me, the check is dated July 3, 1916, to avoid a forfeiture of the interest on the sum at present in the savings bank. Up to the present time the Graduate Council has sent to the Board of Corporators the following sums of money:

June 7, 1914	$1000.00
Mar. 7, 1915	940.00
Jan. 10, 1916	450.00
June 1, 1916	500.00
Total	$2890.00

Report accepted by Mrs. Wilfred Lewis on behalf of the Board of Corporators.

Mrs. Lewis: It always makes a member of the financial board very happy indeed to receive a check, and still more happy when it comes with the added tinge of romance that this check has as an expression of increased mutual sympathy. I hope that the new members who shall come upon the Board will stand for not only corporators, but coöperators in everything for the welfare and the bright future of our College. We thank you very much for this; we feel that you have been very generous in giving so much, knowing that the professional income is not an unlimited matter. We know that these contributions mean, in all probability, personal sacrifice. I thank you very much.

Abstract of Letters from Dr. Polk, of China

Abstract of two letters dated April 5, 1916, from Dr. Ethel Polk (1912), Mary Black Hospital, Soochow, China:

The personnel of the hospital staff consists of 12 nurses, 10 medical students, 2 druggists, an instructor in the Chinese language,

2 Bible women, 13 servants, 2 Chinese women physicians and 4 missionaries, two of whom are physicians (Drs. Love and Polk), and two nurses, Misses Hood and Bliler. All but the missionaries are, of course, Chinese.

The students study in English, but the nurses in their native tongue. The druggists understand English and act as interpreters in explaining dosage. A class of 5 senior students graduate in medicine this June. Dr. Love is dean of the Medical School and Miss Hood has charge of the Nurse Training School. Miss Bliler conducts the Bible Women's work and acts as treasurer.

(Some photos of patients were sent to Dr. Hillman for reproduction on the screen.)

Drs. Love and Polk feel the need of medical education for Chinese women. There is desperate need for modern obstetrics. There are 3 Chinese medical schools for women; 2 where the teaching is in Chinese, 1 (Soochow) where English is the language of instruction. $60 in gold is the cost of tuition per student for a year. The course is five years.

The urgent present needs in Soochow Hospital and school are:

1. A substitute medical teacher for two years, 1916 and 1917, expenses paid, preferably a member of a medical faculty.
2. A permanent medical teacher.
3. Funds for two years' post-graduate instruction in United States for one of the Chinese women doctors now on service.

A formal vote of thanks was extended to the students for their assistance at luncheon.

Dr. Fred D. Weidman, Professor of Pathology, made a few remarks on the recent development in laboratory facilities.

Upon motion of Dr. Weintraub, duly seconded, a vote of thanks was extended to the retiring president, Dr. Elizabeth L. Peck, after which the meeting adjourned.

Dr. Peck reported to the Association the case of a graduate of the College who was in great financial distress.

Dr. Grim and Dr. Hall were authorized to receive contributions for her assistance.

Dr. Peck urged that a project be undertaken to establish a relief fund in the near future.

Dr. Marshall spoke at some length, telling of this needy alumna's unselfish life, ability, and character.

After subscriptions had been pledged, it was left to Dr. Hall's judgment whether these moneys should be turned over in a lump sum or in installments.

Scientific Meeting, 2.30 *o'clock*

Paper by Miss Betsy Libby (see page 106).

Paper by Miss Gertha Williams. Discussion by Major Cowden (see page 113).

Papers by Drs. Cogill and Tallant (see pages 123 and 126).

Session adjourned.

REPORT

REPORT ON THE WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA

By CLARA MARSHALL, M.D.
DEAN.

Progress without additional endowment has been for several years the problem facing the college. Therefore the present movement to secure funds sufficient for the adequate maintenance of our teaching plant is most opportune.

The substantial sum already obtained by alumnæ and friends is encouraging. The attitude of mind which many of us unconsciously assume, and which causes us to look upon every chance acquaintance as a possible giver, has yielded good results.

"The things that are unseen are real:" May this effort toward a common object be the unseen motive force that shall bind us together by chains none the less strong because invisible: may this be the means by which our *alma mater* shall continue a work for medical women which only this college *can* do.

COLLEGE HOSPITAL

The College Hospital is being used to its full capacity and the cry is for more room. The purchase of nine houses on Seybert Street and two adjacent houses on Twenty-first Street north of Seybert Street, will permit of future expansion.

Our new *x*-ray plant is installed and ready for operation. The clinical laboratory has increased equipment with consequent augmented efficiency, and last, but not least, a motor ambulance looms in sight for the near future.

Prof. Alice Weld Tallant, M.D., has furnished the following report on the

MATERNITY

The report of the maternity must always embody the answers to two questions: (1) Are you serving your patients? (2) Are you serving your students? How far these answers are in the affirmative may be judged by what follows:

During the year ending April 30, 1916, there were 571 patients delivered in the combined service. There were two maternal deaths ($\frac{3}{10}$ of 1 per cent.): one was from eclampsia, developing into puerperal mania, and complicated by a virulent gonococcus infection; the other patient entered the hospital with a general toxemia combined with ulcerative colitis and abscesses of the kidney, apparently a sequel to grippe; the birth of a premature baby was only an incident in the course of the disease. Both these patients died in the hospital. The out-practice has pursued the usual even tenor of its way, and the figures of this year added to those that have passed allow us to say that we have completed twelve hundred cases without a maternal death.

Our stillbirths continue to run far below the rate for the city as a whole.

Our patients have now the benefit of thoroughly organized prenatal clinics at both the hospital and the dispensary; in the down-town service prenatal visits to the patients in their own homes are now made by our own staff as well as by the prenatal nurses of the Phipps Institute and the Starr Centre. More than ever we feel that we are working in coöperation with the various agencies whose aim is to help both mother and baby. Patients are constantly being referred to us by the Phipps, the Starr Centre, the Child Federation Health Centre, and the city nurses of the Division of Child Hygiene. One of our staff, Dr. Mary Taylor Mason, stands always ready to investigate any case that shows a special need, thus combining the duties of a social service worker with those of a clinician.

The more thorough organization of the prenatal work has naturally brought about an increased attendance at the clinics, because the patients are learning to return for examination at stated intervals. In this way the students are seeing many more cases, especially the juniors, who are scheduled for Saturday mornings at Barton Dispensary. It is a pleasure to pay tribute here to the energy and devotion of these junior students to the cause of coping with the Saturday throngs.

For some years the requirement in obstetrics has been ten cases for each senior student, but this year a rearrangement of the work resulted in giving an average of more than twelve cases to each student. Twelve has been the number of cases required for licensure by the State of Pennsylvania, but six of these were supposed to be taken during the hospital year. As a result of a discussion of the State requirements at the Philadelphia Obstetrical Society, letters were sent to the Pennsylvania colleges by Dr. Baldy, asking if they were prepared to fulfil the requirement of twelve undergraduate cases, if that should be set as a standard by the State. It was a great pleasure to be able to state in reply what our seniors had done this year, but in order to put our College most assuredly "ahead of the game" our faculty voted to *require* twelve cases from each student, thus giving us the added pleasure of stating that we not only could fulfil the requirement but had already done so before it was put into force—as it was, later.

A recital of some of the cases which have won our special interest and attention is perhaps out of place in the present report, but it seems as though mention should be made of one family in the out-practice. We have referred before to the faithful friend who claims to have sought us out in all her twenty-two obstetrical experiences (including miscarriages). From present indications she is handing down her mantle, as her oldest daughter recently registered for her sixth confinement, a second daughter is "four going on five," a third has had one child, and a son's wife called for Dr. Kraker's services this winter. An obstetrical service carries with it more responsibility than appears on the surface. How thankful we should be that this family is named neither Jukes nor Kallikak!

General Summary of all Departments

Total number of in-patients	1228
Total number of free patients	598
Total number of part-pay patients	441
Total number of full-pay patients	189
Total number of bed days	16,060
Total number of out-patients (Dispensary)	4578
Total number of out-patients (at their homes)	1060
Total number of patients registered at Obstetrical Dispensary	845
Total visits of out-patients (Dispensary)	21,076
Total visits to patients at their homes	4635
Grand total of visits in out-practice service	26,540
Total number of prescriptions compounded	21,496
Total number of births	564
Total number of operative procedures	1516
Total number of examinations in Clinical Laboratory	6680

Several inquiries which have been brought to my attention seem to call for a statement as to the financial relations of the college and its hospital as follows:

The College has never given the Hospital one cent. On the contrary, the Hospital has assumed certain outlay undertaken before the merger with the Hospital and Dispensary of the Alumnæ of the Woman's Medical College of Pennsylvania, now known as Barton Dispensary; this outlay includes the purchase and repair of 335 Washington Avenue and the erection of the Pavilion Hospital on Twenty-first Street and North College Avenue.

The College has *loaned* from time to time to the Hospital, from its "unrestricted" funds, money for maintenance, on which funds, plus the outlay above referred to, interest has been paid by the Hospital.

In all building operations undertaken and completed by the hospital managers, the money for the same was given or pledged before any work was begun, so that the managers have never incurred any debt except the debt to the corporation already mentioned.

Unproductive land east of the College has been made productive for teaching purposes by the erection thereon of our Maternity Pavilion; and unproductive land west of the College has been added to our teaching plant by the erection of a six-story hospital; in other words, two vacant lots on one side of the equation and a hospital of 92 beds on the other side.

During the year of greatest compensation, paid by the College, to extra-mural institutions and for the support of the out-obstetric department of the College at 355 Washington Avenue, the following expenditures are of record:

To the Woman's Hospital of Philadelphia	$2000.00
Barton Dispensary	300.00
Out-obstetric Department	300.00
Total	$2600.00

By the above mentioned merger, the College is entirely relieved of this burden.

But this is not all. One of the ten counts of the Council on Medical Education of the American Medical Association in rating medical schools, concerns the *control* of a hospital. No matter how ample the facilities afforded by any extra-mural institution, if such instruction be not under the *control of the College, it availeth naught.*

Therefore the College hospital has been a potent factor in keeping our school in Class A.

I have been asked whether the Hospital was using trust money of the College for the support of the Hospital and for buildings, and this was coupled with the statement that others had made the same inquiry. No trust funds of the College have been used for the support of the Hospital of the Woman's Medical College of Pennsylvania.

PAPERS

THE PRESIDENT'S ADDRESS

By ELIZABETH L. PECK, M.D.

When I wrote this little paper, I had in mind especially the newcomers. I ask, therefore, that those who have borne the heat and burden of the day, will excuse me if I speak more directly to those younger than ourselves.

As we greet you, the newcomers in this gathering of Alumnæ, this reinforcement of our ranks, fresh with the courage and the enthusiasm of youth, the days of our own youth rise before us; the plans, the ambitions, the ideals that inspired many of us long years ago. Were we to be asked today if in our professional lives we had found fulfilled our early aspirations and ideals, while we would just as surely as last year resent the statement that we were dissatisfied, we would not deny that many of these early aspirations and ideals had either not been realized, or realized in such different fashion from our imaginings, that our younger selves would with difficulty recognize them as embodied in any measure in our present selves.

Yet now, as always, the ideals of youth are the dynamic force in the progress of humanity: unfulfilled in part, shattered often, incompletely realized by reason of failing loyalty, lessening energy, absorption in lower aims, they are still the driving power which linked to the steady march of mature strength push forward the wheels of progress in human endeavor.

The thought of the doctor's ideal brings many pictures before our minds from the embodiment of that splendid parallel of the golden rule in the oath of Hippocrates down through the long centuries even to our own times: ideals that have been lived and that have been honored in all the nations of the earth.

As an illustration of our modern scientific outlook, I know

of nothing more impressive than the picture George Eliot has drawn of Lydgate, the young physician, in her novel of *Middlemarch,* her story of his ambition and his ideals. This picture is the more remarkable and shows the quality of the great novelist, since it was written more than forty years ago, when scientific medicine as we know it now was in its infancy. I, myself, remember well how great an influence this portrayal of George Eliot had in determining my own entrance upon the study of medicine. I quote a passage in which the author not only portrays a noble ambition, but shows most wonderfully her own insight and her prophetic vision. She says:

"Many men have been praised as vividly imaginative on the strength of their profuseness in indifferent drawing or cheap narration; reports of very poor talk going on in the distant orbs; or portraits of Lucifer coming down on his bad errands as a large ugly man with bats' wings and spurts of phosphoresence: or exaggerations of wantonness that seem to reflect life in a diseased dream. But these kinds of inspiration Lydgate regarded as rather vulgar and vinous compared with the imagination that reveals subtle actions inaccessible by any sort of lens, but tracked in that outer darkness through long pathways of necessary sequence by the inward light which is the last refinement of energy, capable of bathing even the ethereal atoms in its ideally illuminated space. He, for his part, had tossed away all cheap inventions where ignorance finds itself able and at ease: he was enamored of that arduous invention which is the very eye of research; provisionally framing its object and correcting it to more and more exactness of relation; he wanted to pierce the obscurity of those minute progresses which prepare human misery and joy, those invisible thoroughfares which are the first lurking places of anguish, mania and crime, that delicate poise and transition which determines the growth of happy or unhappy consciousness."

Recently in reading an article on the obscure but most interesting subject of the ductless glands, and on the method used in investigating their relations, I could but reflect that the true scientific method had been rarely more happily outlined.

The field of medicine is wide today, and no one life can hope to cover more than a fraction of its activities. And we desire to choose that portion of the field for which we are specially adapted. To many young graduates the appeal of surgery is well nigh irresistible. A part of its fascination lies in the prospect it gives of something positive to be done for human ills, the avoidance of sitting with folded hands and watching the ravages of disease.

But the youthful surgeon needs to realize that by far the more important work of the surgeon lies in diagnostic skill, in the careful estimate of the needs of the patient in relation to his reactive power, and in skilful after-care. Safer by far is the average patient under a surgeon of moderate operative ability, but of good all-round training and judgment, than with the most brilliant operator who lacks these qualities. It is needless to say that this training can be obtained only by experience in general medical and hospital work.

Internal medicine, including pediatrics, brings to the physician more fully than any other branch, with the possible exception of obstetrics, the contact with family life and the opportunity for preventive medicine. We all of us hear of the family doctor "who knows our conditions" and we recognize the value of his knowledge, if he or she is the right sort. Were there more of the careful, patient, scientific general practitioners, there would be fewer patients requiring the attentions of the surgeon and the specialist.

Research work, the kind of work by which the progress of medicine is advanced, especially if the work is correlated closely with clinical observation, gives a field boundless in scope, boundless also in the demands made on the patience, accuracy and capacity for clear thinking of the worker, if her results are to be of value to the world.

Opportunities for the internes of the present day have been broadened and multiplied. I sometimes believe their real work of observation is restricted, however, by the multitude of duties thrust upon them. I suppose, were the truth told frankly, chiefs, from the earliest times when internes were, have found them often more anxious to do the things that seem big, rarely recognizing the value of the small things, the exceeding value of the opportunity to study the patient from day to day in order to gain that knowledge which seems instinctive in the skilful diagnostician, but which is really the result of observation. The student who does realize this is a recognized treasure.

As Osler remarks of nurses: "They have usurped some of the duties and have advantages which they (the students) do not possess. In hospital work there is often such a burden of work that we must not blame the poor interne for slipping into routine.

It is wise and right, in beginning any life-work, that we should ask ourselves if we possess the requirements for success in that particular field. And, further, we need to have before us an ideal of what success means. Not everyone who gains a high position or great financial returns really attains the highest success,

although in our profession I believe these often go hand in hand. On the other hand, many a quiet, unostentatious life reaches that goal. Success is measured in our profession not only by the tangible and visible results of one's life-work; even more by mental and spiritual achievement which may be unknown or unrecognized. Many a great teacher has never published anything, has put his life energies into the training of his students.

A fair mental endowment, health, persistence, accuracy of observation, and the spirit of service would seem indispensable qualifications for success in medicine. In the active practice of internal medicine, surgery and obstetrics there is need for strength and endurance. I was interested to hear a man eminent in the medical world say that doctors and nurses were able to do more than those engaged in ordinary pursuits because of the mental and moral support and stimulus of their work. I believe this is true, due perhaps in part to training, also in part to the character of the service given—to the tendency to self-effacement.

In these days when the needs of our College meet us at every turn, when we are all trying to find ways in which we may give her aid, it behooves us also to remember that we, and those who are to follow us, are the sole reason for her existence: and if we would justify her before the world, if we would do our best and our utmost for her, it behooves us to recall that this best consists in fulfilling in our own lives the noblest ideals of the profession to which we have the honor to belong.

The most valuable asset of any college is its loyal, useful, and honorable alumnæ.

CORRELATED MENSTRUAL CHANGES IN OVARY AND ENDOMETRIUM

By CATHARINE MACFARLANE, M.D., F.A.C.S. (1898)
PHILADELPHIA

THE cause of menstruation might well be termed the gynecological riddle of the sphinx, a problem as puzzling as it is interesting, and likely to continue so. Those of us who received our medical degrees in the last century may remember how, at that remote period, it was questioned whether the cause of menstruation resided in the ovary or in certain ganglia of the sympathetic nervous system located in the broad ligaments. This point being eventually settled in favor of the ovary, two new questions arose and demanded answer: What part of the ovary is concerned? And how is its effect produced?

The answer to the first question—what part of the ovary is concerned? came indirectly as a result of experiments inspired by an unpublished hypothesis of the late Breslau embryologist, Gustav Born. Born had conceived the theory that the corpus luteum verum of pregnancy, by virtue of its structure and development, must be a gland of internal secretion essential to the implantation of the fertilized ovum in the uterine cavity and its further development there. In his last illness, having been unable to carry out the experimental proof of this theory, he begged his friend, L. Fraenkel, to undertake to do this for him.

We can surmise with what mingled emotions Fraenkel received this spiritual legacy and with what zeal he undertook the quest. He experimented upon pregnant rabbits, opening the abdomen and removing both ovaries, or destroying all corpora lutea by means of a fine galvano-caustic needle—in every case the pregnancy was interrupted. A series of control cases showed that opening the abdomen *per se*, removal of one ovary, destruction of some of the corpora lutea or injury to other portions of the ovary did not interrupt the pregnancy. The correctness of Born's theory thus being proven, Fraenkel was moved to propound a theory of his own. He reasoned that, since the structure, development and decline of the corpus luteum spurium is similar to that of the corpus luteum verum, although its cycle is accomplished in

one-tenth the time, the function of the corpus luteum spurium must be to produce the recurring monthly hyperemia of the uterus, in other words to act as its trophic centre. In proof of this theory he quotes in his original article in the *Archiv f. Gynäkologie,* 1903, vol. lxviii, the following experiments: He operated upon seven rabbits, cauterizing all corpora lutea; fourteen days later he reopened the abdomen of these rabbits and found their uteri in a state of fatty degeneration and atrophy; in nine women, during the course of abdominal operations, he cauterized the corpora lutea, with the result that the next menstrual period did not occur at the expected time, but was delayed in each instance several weeks.

As a result of these experiments, Fraenkel rejects the terms corpus luteum verum, spurium, and graviditatis, and sums up his conclusions as follows:

"The corpus luteum is a gland newly formed every four weeks in women and at corresponding intervals in animals. Its function is always the same—to convey to the uterus in cyclical manner a trophic impulse whereby that organ is prevented from reverting into the state of childhood on the one hand, or from entering prematurely into a senile state on the other hand, and whereby also the endometrium is prepared for the reception of a fertilized egg. When an egg is fertilized the corpus luteum persists for a short time, conveying increased quantities of nutritive material to the uterus in order that the ovum may become attached and develop. If fertilization does not take place, the hyperemia results in menstruation and the corpus luteum undergoes retrogressive change. There is, therefore, only one corpus luteum, a true periodically regenerating ovarian gland which controls the nutrition of the uterus from puberty to the climacterium."

While the Born-Fraenkel corpus luteum theory was thus being elaborated, the histology of the endometrium was being studied by Hitschman and Adler, of the Schauta Klinik, Vienna. In 1908 these investigators published in the *Monatsschrift f. Geburtshülfe und Gynäkologie* an article on the "Structure of the Endometrium." This was based upon specimens from fifty-eight normally menstruating women, the mucous membrane in each case being obtained by curettage or hysterectomy and fixed when fresh. By these examinations they were able to prove that the mucous membrane of the uterus during each four-weekly cycle undergoes a definite series of changes which they classify into four stages:

1. Premenstrual.
2. Menstrual
3. Postmenstrual.
4. Interval.

The characteristic features of the various stages are briefly as follows:

1. PREMENSTRUAL. Six or seven days before menstruation the muscous membrane swells to two or three times its usual thickness, the glands enlarge and become tortuous, their lumen widens until neighboring glands almost touch one another and secretion appears in their lumen and on the surface of the mucous membrane. In the upper portion of the mucous membrane, edema and swelling of the connective tissue flatten the ducts of the glands and separate them widely. The mucous membrane thus becomes divided into a lower spongy portion and an upper compact portion. The connective-tissue cells near the surface become large and pale and acquire a resemblance to decidual cells. The vessels of the mucous membrane are widely dilated.

2. MENSTRUATION. The approach of menstruation is evidenced by dilated capillaries, filled to bursting and surrounded by tiny extravasations of blood. These extravasations grow larger and larger until they become confluent, when, according to Gebhard's theory, as a result of the formation of a subepithelial hematoma, the epithelium ruptures and blood escapes into the uterine cavity; others believe that the continuity of the epithelium having been destroyed by the preceding serous exudate, the extravasated blood escapes into the cavity of the uterus directly. With the onset of bleeding the swelling of the mucous membrane begins to subside, the connective-tissue cells lose their striking appearance and are interspersed with red and white blood cells, the contents of the glands are gradually expelled and the glands themselves once more become narrow and straight, until at the end of the period the appearance of the mucous membrane is that of the

3. POSTMENSTRUAL STAGE. In this the mucous membrane is low and pale, showing at first slight traces of extravasated blood, which disappear within a few days. The epithelium regenerates rapidly, covering the mucous membrane in an unbroken layer as early as the first day after menstruation. The glands are uniformly narrow and straight, their lining epithelium is low and all evidence of secretion is lacking.

4. INTERVAL. In this stage the mucous membrane is slightly higher than in the postmenstrual, the glands manifest a tendency to become tortuous, the epithelium grows higher, and toward the end of this stage traces of secretion begin to appear.

Turning from structural to biochemical changes we find a number of interesting observations recorded. The incoagulability of menstrual blood, for instance, is a feature familiar to all of us, which for many years was attributed to its admixture with mucus

from the cervix. Recently this explanation has been proved to be incorrect, in fact it has been demonstrated that alkaline cervical mucus hastens rather than retards coagulation. Schickele, of Strassburg, among others, conceived the idea that this incoagulability of menstrual blood must be due to certain chemical causes in the uterus or ovaries, consisting either in the increased production of a coagulation retarding substance, or the diminished production of a coagulation hastening substance.

In testing out his theory he performed a great many experiments with the expressed juices of uteri, tubes, ovaries and corpora lutea. These organs were finely chopped, mixed with gravel and sand, powdered in a mortar and their juices finally expressed under a pressure of four or five hundred atmospheres. The resulting fluid was centrifuged and filtered and a clear liquid obtained. In making his experiments he used a definite quantity of goose plasma (which contains no thrombin), added an equal quantity of horse serum (which contains thrombin) and noted the coagulation time; to a similar mixture a definite quantity of the expressed uterus juice was added and the coagulation time found to be materially delayed. Similar results were obtained with the expressed juices of Fallopian tubes, ovaries and corpora lutea, negative results were obtained with follicular fluid. The chemical properties of this coagulation retarding substance are such that Schickele feels justified in calling it antithrombin, without, however, intending to claim that it is chemically identical with other antithrombins already discovered and studied.

That this antithrombin is added to the blood gradually and in small quantities is evidenced by the normal coagulation time of the blood of patients whose expressed uterine juices markedly retard coagulation. Moreover, the coagulation time of the circulating blood of menstruating women is unchanged in spite of the marked increase in the antithrombin content of their menstrual blood. As a result of numerous experiments Schickele concludes that the antithrombin in the menstrual blood is derived from that demonstrable in the uterus, and is tempted to believe that the latter, in view of the functional connection between the ovaries and the uterus and the causal relationship existing between ovarian function and menstruation, is identical with the antithrombin which is found in the ovaries and is in fact derived from it. In this connection he reports experiments which show that after the menopause, the ovaries and uterus lose the coagulation retarding function which characterize them during the productive period.

Another series of experiments performed by Schickele showed that hypodermic injections of the expressed juices of uteri, ovaries

and corpora lutea, and extracts of these organs prepared with boiling alcohol, produced a fall of blood-pressure; that this is due to a local vaso-dilating action he proved by dropping one drop of the extract into the conjunctival sack of a rabbit where, after a few seconds, marked dilatation of the conjunctival vessels was observed. From its chemical properties he concludes that this blood-pressure lowering and vaso-dilating substance is analogous to the lipoids, and believes that it exists in the lutein cells of the corpora lutea and in their antecedents, the granulosa cells of the immature Graafian follicles. He explains the onset of menstruation as follows: "These substances are found in young individuals in whom the follicles are still ripening, and I picture to myself that as soon as a sufficient number of follicles have ripened to a certain degree, *i. e.*, when a certain amount of these substances has been manufactured and the corresponding anatomical changes in the endometrium are sufficiently advanced, then the first menstruation appears."

Approaching this subject from another standpoint, Halban and Aschner, of the Schauta Klinik, Vienna, were able to demonstrate in the endometrium a proteolytic ferment—trypsin—invariably present in the premenstrual stage, usually in the interval, rarely in the postmenstrual stage. They are inclined to believe that this tryptic ferment results from the secretory activity of the uterine glands and that it causes the premenstrual swelling of the stroma cells, whereby they acquire a decidua-like appearance; in other words, that this change represents the first phase of a digestive process. The well-known fact that in the implantation of the fertilized ovum maternal bloodvessels are opened by means of a tryptic ferment secreted by the chorionic villi, leads these authors to conclude that the bleeding of menstruation results from the digestion of the capillaries of the endometrium by a similar ferment secreted by the endometrial glands in the premenstrual stage.

In addition they cite several experiments which prove that trypsin solutions delay the coagulability of blood, and advance the theory that the incoagulability of menstrual blood may be due to its passage through the upper layers of the endometrium, which are saturated with trypsin. Upon the basis of these facts and theories briefly reviewed, each one of us is in a position to evolve a menstrual theory of our own. Personally I have derived great pleasure from the summary presented by Schroeder, of Rostock, in the *Archiv f. Gynäkologie*, vol. civ. He states: "We see as dominant factor throughout this process the egg cell in its development, maturity, and death; secondarily we see changes in organs

accessory to the egg cell—the ripening follicle and the corpus luteum, and finally and dependent upon changes in the corpus luteum we see changes in the excretory passages of the genital glands, particularly in the most important of these—the uterus.

Schroeder rejects the old terms postmenstruum, interval, premenstruum, and substitutes for them the biologically significant terms proliferative and secretory phases. Normally the proliferative phase lasts from the sixth to the fifteenth day, when ovulation occurs and the secretory phase begins, to be in turn terminated on the twenty-eighth day by desquamation, which lasts for two days; on the third and fourth day healing of the raw surfaces takes place and on the fifth day a new proliferative phase begins. The blood-pressure lowering and vaso-dilating substances discovered by Schickele accumulate in the genitalia, particularly in the endometrium, and here produce congestion and vascular dilatation; by this means the glands are stimulated to secrete, they become dilated and tortuous and filled with mucus. When this accumulation reaches a certain maximum, hyaline degeneration of the small vessels and capillaries takes place and they become permeable for blood and other fluids which escape; or this escape of blood and other fluids may result from the digestion of the superficial capillaries of the endometrium by the tryptic ferment found by Halban and Aschner in the premenstrual endometrium in considerable amount.

Again quoting Schroeder's words: "We do not know why, when the corresponding egg cell is fertilized, the vasodilating and blood-pressure lowering substance and the tryptic substance do not produce menstruation, while in the absence of fertilization this is the case." He believes with Robert Meyer (*Archiv f. Gynäkologie*, vol. c) that the death of the egg cell causes, on the one hand, retrogressive changes in the corpus luteum, and on the other hand disintegration of the endometrium, which had undergone changes preparatory to the reception of a fertilized egg cell. With the death of the egg cell the egg hormones lapse and their protective effect upon the developing corpus luteum is lost; as the corpus luteum degenerates the endometrium loses its stimulus to growth and in its turn degenerates.

In conclusion I can offer no better summary than the happy phrase of L. Seitz: "Ohne Ovulation keine Corpus luteum Bildung, und ohne Corpus luteum Bildung keine Menstruation."

PERIBRONCHIAL INFILTRATION OF THE LUNG AND ITS BEARING UPON THE PROGNOSIS OF A CASE

By MARY E. LAPHAM, M.D. (1900)

The line of work upon which we have been especially directing our efforts is the relation of diagnosis of peribronchial infiltration of the lung to the prognosis of the case. Following out the subject of peribronchial infiltration, our ideas of the condition of the lung have changed. (Illustrated, on board, air passages into the lungs, bifurcation of the trachea, and glands.)

Suppose that these bronchial glands are more or less always infiltrated with tubercle bacilli, that in a great many cases in our children there is a tendency to enlarge these glands, especially those in the bifurcation. Consequently there is pressure upon the trachea or in the glands of the hilum proper in which all vessels enter and leave the lungs. We get direct pressure upon the walls of the air passages. If this pressure is exerted upon one of the upper bronchi there is a bronchial stenosis. This causes no difficulty to the air entering the lung when the chest is pulled out, but as the chest wall falls back again the stenosis returns. The air which has gotten by must return to the atmosphere. It meets with obstruction, there is a tendency to accumulation of residual air. The only way we can breathe is by the pressure of the atmosphere distending the alveoli of the lung. It is possible that the weight transmitted will not be sufficient to press open the air passage. We can conceive of dulness arising from such condition as from a true tuberculous process. In many cases the weight of the atmosphere is not sufficient to distend these terminal lobules and the air going up is not sufficient to distend the portions in the apex. You may get dulness with lack of breath sounds down to the first and second ribs and think you have true tubercular infiltration. It makes a tremendous difference to the patient whether you have an extension of a tuberculous process or whether the air has come down to a small air passage which the weight of the atmosphere cannot force open. Suppose you have an area of

dulness, with suppressed breath sounds in both lungs, will you tell your patient to drop his work and fly to the mountains—let us hope, and to me—or are you going to say, "We don't know anything about this; let us study and see whether this is a relatively safe process which will permit the man to continue his work, under supervision?" This is a very important point, as demonstrated in a case seen within a week, that of a physician with a very profitable practice. This gentleman, who was very much afraid of tuberculosis, came to me and asked whether he must drop everything and go and get well of tuberculosis, or whether he might stay at his work. My friend in consultation said, "Do not take any risk; tell the man to stop work and take a vacation, and do not let this process extend any farther." That is a perfectly safe position, but to a man with three children and a wife it is not such an easy position to take, unless it is necessary. Five or more years ago there was a man in New Orleans, the most distinguished man south of Baltimore, one of Osler's most promising students, who became Clinical Professor of Medicine in Tulane University. He had a relatively harmless process of long standing. The best men in the medical profession in New Orleans said, "Don't give up your year's work, go through your college year, rest all you can and sleep out of doors, get through your college course." He went through college backed by the best opinion, but died later. My friend's advice, therefore, to me, to be on the safe side, was fully warranted by such a disaster as that. On the other hand, a man came to us with limited breath sounds and dulness over the whole of the left lung, and with a part of the right upper lobe altered in breath sounds. I unhesitatingly advised him to give up his work. He had all the signs of tuberculosis except the loss of weight. I advised him, however, to first go to the Johns Hopkins Hospital and have Dr. Barker and Dr. Bechtel go carefully over his *x*-rays. Fortunately, he did so. They advised against his giving up his work and he is a perfectly well man today.

Another class of cases is what we call pneumonic. In this type the infiltration starts at the terminal artery and produces just such a condition as an infection in the nose, a catarrhal condition. This type is vastly more easily diagnosed than the subperibronchial infiltration. There are few of the symptoms of the tuberculous toxemia, but it is not safe for the patient to continue working because of the tendency to breaking down of tissue and pneumonic extension. Again, in a patient with such condition I advised caution, but I am happy to say I was wrong. Both patients are working today and their cases have been very valuable to me in emphasizing the necessity of sizing up the processes before

permitting a patient to lose his life, or, on the other hand, taking him away from his work unnecessarily.

Three cases illustrate our methods of diagnosis and our method of determining what the patient may or may not do.

The first case was that of a young woman, aged about twenty-three years, who had lost about ten pounds in one year. In the front of her right lung you could feel the pull of the chest coming out, but no breath sounds. Absence of breath sounds with preservation of good resonance was about all there was in this case. To our minds it was evident something was preventing the air from getting in and creating the breath sounds, and at the same time preventing the escape of that air, so that dulness did not occur. Good resonance with suppressed breath sounds is a condition found in one of the early stages of peribronchial infiltration. While this does not necessarily indicate great danger the condition requires watching.

A second case shows one step further than the first and exhibited an inability of the air to get in, difficulty to get expansion of the chest, suppressed breath sounds and dulness. There was extension of the peribronchial infiltration along the small bronchioles, pressing them together and preventing the entrance of air, which is a much more serious condition than that mentioned in the preceding case. In this case it seemed to me that before condemning this brilliant young woman to the risk of losing her life or her work she should have three months' careful study and close observation.

The third case represents a still further stage of infiltration of the same kind. The chest would not expand, was tied down tight, with absence of breath sounds. The peribronchial infiltrations had extended up along the air passages. This was true tuberculous infiltration. The seriousness of the condition had been masked by the preservation of resonance. When these small passages collapse there is often no effect upon resonance whatever, because there is compensatory dilatation of the larger air passages sometimes keeping the supply of air even above the normal. This case had been through the hands of several noted physicians and a diagnosis of peribronchial infiltration had been made on account of the preservation of resonance.

If in these few remarks I could impress upon you the futility of depending upon dulness as the indication of tuberculosis I shall have done much. No dependence whatever can be placed upon the preservation of resonance. You can have just as much danger with resonance as you can without it. In this case what had happened was loss of elasticity in all of these air passages, so that

they were tied down tight, and fibrophthisis was already established. The trunk of the bronchial tree was covered with scale, with a lichen, which did not elicit breath sounds but suppressed them. To depend upon alterations in breath sounds is not safe in making a diagnosis of bronchitis or of tuberculosis. Alterations in breath sounds belong to the pneumonic cases.

The case seen last Sunday was an exceedingly interesting one because in the right lung there were altered breath sounds all through. The resonance was fairly good below the third rib; as the chest wall was pulled out the expansion was good. What is the significance of loss of resonance, or loss of breath sounds with preservation of expansion? In the other case there was pretty nearly the same condition: Suppression above the first rib was complete; below it breath sounds came in very faintly. Resonance was well preserved; expansion of both lungs was perfect. What shall we tell such a man with a high earning capacity? In this case we asked to have *x*-ray plates made. From these we found that the peribronchial glands were much infiltrated on the left side. In front of the right lung were many tubercles scattered with some peribronchial infiltration. What had happened in the lung was that after it had gone beyond the resistance of the larger tubuli, where the cartilages keep the walls of the trachea open, there was compression of the alveoli with corresponding dulness and only here and there tubercles. It had later spread to the left lung. We told the man he need not give up work but that he should keep himself under careful supervision.

I am very glad to be able to call your attention to these points because I see in my work the dangers of the two extremes. Often a patient insists to a doctor that he has tuberculosis and the doctor does not discover it because he looks for dulness, for altered breath sounds, and these signs are not always given us.

Dr. Lapham's paper was discussed by Dr. Van Gasken.

Dr. Lapham (closing): I agree with Dr. Van Gasken that the heart has much to do with the production of wet wounds, because anything that produces hyperemia or stasis in the pulmonary circulation will establish an edematous infiltration and produce wet sounds. I passed over this point because I was not speaking upon the diagnosis of pulmonary tuberculosis. Regarding temperature, it is thought that before temperature develops in tuberculosis we must have disintegration of tubercle bacilli with the consequent liberation and absorption of toxemia; that if the process is dry there is no exudation, no disintegration, no liberation and absorption of toxemia and that we will have no temperature. These peribronchial infiltrations are essentially dry and usually there is no temperature at all.

DO WOMEN EAT ENOUGH?

By MARTHA TRACY, M.D., and CAROLINE CROASDALE, M.D.

The close relation between food and the continuance of life has been a self-evident fact since history began.

In the somewhat later periods of scientific speculation it was easy to believe that the "food we ate was first converted by the liver into natural spirits, which the blood and inspired air changed into vital spirits, and which on reaching the brain became animal spirits." The true science of nutrition began, however, in 1776 and '77, when Lavoisier, that great French chemist, first demonstrated the importance of the gas, oxygen, in the life processes of animals, and in 1780 put together the first primitive contrivance for measuring the oxygen consumption of a living animal.

Eighty years passed before Pettenkofer and Voit, in 1862, constructed their classical respiration calorimeter, and before Voit in 1866 began the *computation* of the amounts of food substances theoretically oxidized in the body as measured volumes of oxygen were consumed and measured volumes of CO_2 were expired.

In 1885 Rubner, in Voit's laboratory, made the first accurate determinations of the heat value of urea and other nitrogenous excreta and established the now accepted biological figures for the heat producing or caloric value to the body of the three great classes of foodstuffs—fats, carbohydrates and proteins. Rubner, in 1894, constructed the first really successful calorimeter for studying the energy exchange in dogs, and Atwater, studying in Voit's laboratory at this time, returned to America with the inspiration and experience that enabled him to take up the work in this country, in association with Dr. F. G. Benedict. At Middletown, Conn., in 1903–4 was built the respiration calorimeter for man, in which the first experiments in human calorimetry were carried out.

During the past twelve years, then, more has been learned of the energy transformations, the metabolism of man, than during the entire period of 125 years which followed Lavoisier's discovery.

What, then, have been the practical results of this epoch-making

work? Briefly these: We have learned that food is fuel for the animal machine; that while some of the food of particular sort, as protein, may become built into body tissue and remain for a time in the form of cellular structure, yet all material entering the body eventually becomes discharged from the body in the excreta, which in large part are products of its combustion or oxidation. During this oxidation of fuel heat is produced—the body is maintained at a fairly definite temperature, and in addition some of the energy is transformed and expressed in mechanical and nervous work.

It has been found convenient to employ the heat unit, the calorie, in quantitative discussions of the value of this food fuel—the so-called large calorie used being the amount of heat required to raise 1 kilogram (2.2 pounds) of water 1° C.

In terms of calories, then, the fats, carbohydrates, and proteins have a fuel value to the body of 9 calories per gram for fats, 4 calories per gram for carbohydrates, and 4 calories per gram for proteins.

In the brief time at my disposal I must omit any further historical or theoretical discussion and turn at once to the practical results of the knowledge thus far gained.

With the appreciation that the vital heat and work produced in the animal body were directly due to the burning of food as fuel, it became at once interesting to determine how much such fuel was needed by man under various conditions of life.

We are now able to examine into and answer this question in three ways:

1. We may weigh accurately the food actually eaten by a man or woman, multiply the total weight of fat, carbohydrate, and protein by the factors given, and thus determine the *caloric value* of the food ingested, which represents the *energy available* to that person for the period given.

2. We may determine the energy generated in that individual body by *indirect calorimetry*—that is: we may measure by now simplified instruments the oxygen actually consumed and carbon dioxide actually expired during a given period, and compute from the figures so obtained the number of *calories* of heat produced by combustions which could give rise to our oxygen and carbon dioxide figures. Thus again we have estimated the number of calories, the amount of energy, available to that person during the period given.

3. We may place the individual in the now perfected respiration calorimeter, and actually measure the heat given off by that body during the period of observation.

The dietary standards with which we are all familiar are the so-called statistical standards obtained by the first method—by noting food actually eaten and computing therefrom the number of calories available to, or actually used by, and therefore presumed to be required by a man under varying circumstances.

Thus we are familiar with the following standards:

	Calories in 24 hrs.
Voit	3000
Atwater: Man at moderate work; Woman at active work	2700
Man at no muscular work; Woman at light work	2450
Langworthy: Business men and students	3285
Chittenden: Business men	2800

That such statistical observations are to be relied upon for practical purposes has been shown by numerous experiments. For example, Drs. DuBois and Coleman, at the Russell Sage Institute of Pathology at Bellevue Hospital, have shown that a patient in the respiration calorimeter produced by actual measurement 419.78 calories during five hours.

Calculations made from the value of the food ingested during the same period gave 422.5 calories. Very striking agreement between the theoretical and actual results.

The results of *indirect calorimetry* also have been shown to be strikingly in accord with those of direct calorimetry.

In experiments on men at rest made by Drs. Benedict and Atwater, in 1899, the following figures were obtained:

	I.	II.	III.	IV.
Estimated heat of combustion per day, by CO_2 and O measurements	2265	2272	2436	2356
Heat actually measured per day in calorimeter	2283	2309	2394	2286

Since direct calorimetry has therefore demonstrated the accuracy for practical purposes of the simpler methods for computing energy values, we are justified in using these methods for clinical work.

Immediate interest and study of pathological metabolic states soon demonstrated that a larger number of observations on normal men and women was absolutely necessary in order to determine the normal *variations* in caloric output which are due to influences of food, activity, etc.

Drs. Gephart and DuBois, in a paper in the *Archives of Internal Medicine*, 1915, state: "In the study of metabolism the normal control is coming to be recognized as the weakest part of the

experiment. The chemical methods of blanks and duplicates will not suffice, the living organism is the uncertain factor. The literature is notoriously filled with false theories, of which the greater part would never have been promulgated if sufficient attention had been given to normal controls."

Benedict at once recognized that the figures given above for men at rest could not be used to express the *basal* metabolism—*i. e.*, "the minimum heat production that is consistent with normal cell life in an individual at complete muscular rest, without food, and surrounded by a temperature of 30° C. or more."

The subjects of the quoted experiment moved about in the calorimeter chamber, made up the bed, took food from the window and ate it, etc., thus raising their energy output by several hundred calories.

In order, therefore, to come closer to the basal metabolism, Benedict and his associates, in papers published a year ago in the *Journal of Biological Chemistry*, report observations upon 89 normal men and 68 normal women lying at absolute muscular rest in bed, and in the post-absorptive period, *i. e.*, twelve hours after the last meal. Thus are eliminated all energy expenditures due to ingestion of food, to muscular effort, and to change of external temperature as the temperature of the chamber was kept constant.

The conditions of these experiments are such that they give a more complete and accurate picture of the basal metabolism than heretofore published.

AVERAGE VALUES FOR METABOLISM OF NORMAL MEN AND WOMEN

	Age.	Weight.	Total calories.	Calories per kilogram.	Calories per sq. meter of body surface.
89 men . .	26	64.3	1638	25.5	832
68 women .	27	54.5	1355	24.9	772

The basal metabolism is here shown to be very close to 1 calorie per kilogram of body weight per hour.

The men show a basal metabolism 5 to 6 per cent. higher than the women.

We may accept the above figures, then, as a point of departure for comparisons of metabolism both in normal and in abnormal or pathological individuals.

Further, it has been shown that if food is taken the heat production will increase about 10 per cent. over the basal metabolism.

If the subject sits up in a chair another increase of 8 per cent.

above the basal metabolism occurs; and if movements about the room are made, a 29 per cent. increase follows.

Thus a basal metabolism of 1680 calories will be raised as above to 2168 calories. If a walk of two hours occurs during the day the amount goes up to 2488 calories—a figure close to the statistical standards given earlier.

Scientific experiments have thus shown that about 2500 calories per day seem necessary and desirable for normal moderate activity.

And now to the problem presented by the title of our paper.

It is a fact of common observation that the average boy, youth and young man possesses a greater fund of energy than does the average girl and young woman of equal age and weight. His vigor, his endurance, his necessity for physical expression, are greater than that of his sister; and, though we hesitate to utter this opinion before this audience, he as a rule accomplishes more.

We find ourselves then confronted by this problem: Why is it that the average young woman student and the working woman, in the intellectual and industrial pursuits which economic necessity is forcing her to enter, does not have in the majority of instances the energy and the endurance to accomplish her day's work with vigor and with the greater margin of energy and vitality so evident in the average man?

Is this difference an inherent physiological difference in the sexes which cannot be overcome by adaptation of habits to change of external circumstances? Or is it, rather, that the boy and man provide themselves with more abundant fuel, and therefore have an excess of bottled-up energy which sooner or later expresses itself; while the working woman often does not eat enough, does not provide herself with sufficient or perhaps with suitable fuel to compensate for her energy expenditure?

Observations during several years having led us to consider seriously the latter, as possibly the true explanation of much of the physical and nervous debility among women, and we have sought opportunity to collect data bearing upon this point.

The text for our discussion today is presented in a series of figures collected by one of us at the Philadelphia Normal School for Girls. The figures are taken at random from over two hundred observations. All of the students here represented are believed to be normal young women, who have passed the physical examination for gymnasium work, and whose ages range from seventeen to twenty-one years.

Each student made close observation of her diet, and from one of the reliable food value tables available calculated, under direction, the caloric value of the food eaten.

We have arranged the cases in four groups as shown. We have then added from the official records of the school a statement of the scholarship of each student; and finally a sign which represents the vitality or efficiency or margin of available energy of the individual.

The student of so-called "negative vitality" is quiet and listless, often anemic, and with no energy for anything beyond her school day of work.

The student of so-called "positive vitality" is full of life, excellent at gymnastic work, leading in dances and entertainments, and in general with energy enough and to spare.

Between the two is the neutral individual conspicuous in neither direction.

We call your attention to what appears to us a very interesting correlation of facts.

TABLE I.—STUDENTS EATING FOOD EQUIVALENT TO LESS THAN 1600 TOTAL CALORIES PER DAY

Student Number.	Total calories.	Calories per kilo of body weight.	Weight in kilograms.	Scholarship.	Energy manifestation.
7	1583	38.3	41.3	Poor	Negative.
8	1245	35.3	45.0	Fair	Positive.
22	1457	21.4	58.1	Poor	Negative.
27	1584	20.9	47.2	Good	Positive.
34	1276	29.9	51.0	Fair	Positive.
44	1148	21.2	60.2	Poor	Negative.
47	725	28.0	41.0	Poor	Negative.
51	1365	14.8	49.0	Poor	Neutral.
100	1550	20.0	68.1	Fair	Negative
107	1286	29.6	52.6	Poor	Negative.
112	1052	27.7	50.0	Poor	Neutral.
113	1400	21.4	49.0	Poor	Negative.
119	1344	28.0	50.0	Poor	Negative.
120	1298	28.7	46.8	Fair	Positive
123	1232	22.7	57.2	Poor	Negative
126	1324	22.4	55.0	Fair	Negative.
129	1140	27.0	49.0	Poor	Negative.
76	1480	22.0	51.7	Poor	Positive.
79	1543	26.9	55.0	Good	Negative
82	1550	29.2	52.7	Poor	Negative.
87	1242	25.2	61.3	Fair	Negative.
90	1402	27.0	46.0	Poor	Negative.
93	1312	28.1	49.5	Poor	Negative
95	1265	18.2	72.0	Fair	Positive.
96	1284	15.8	88.6	Fair	Positive.
63	1469	24.7	51.8	Good	Positive.

In Table I are listed 26 students whose food intake for twenty-four hours (an average of two days' observations) was less than 1600 calories. In this group we find a scholarship showing of 57.6+ per cent. poor, 30.7+ per cent. fair, and 11.5 per cent.

good; while our estimate of vitality or margin of energy shows 57.7 per cent. negative, 30.7 per cent. positive, and 11.5 per cent. neutral.

TABLE II.—STUDENTS EATING FOOD EQUIVALENT TO BETWEEN 1600 AND 2000 CALORIES PER DAY

Student Number.	Total calories.	Calories per kilo of body weight.	Weight in kilograms.	Scholarship.	Energy manifestation.
3	1853	34.5	53.6	Good	Positive
6	1710	34.0	50.0	Good	Neutral
10	1892	34.7	54.5	Poor	Negative
18	1888	32.4	58.1	Fair	Negative
19	1890	39.0	48.6	Poor	Negative
20	1604	31.5	50.9	Poor	Neutral
21	1902	38.0	50.0	Good	Positive
23	1650	38.8	45.0	Fair	Negative
25	1967	42.6	46.0	Poor	Negative
26	1715	36.6	46.8	Good	Positive
30	1841	55.5	53.2	Good	Negative
31	1933	32.6	60.4	Good	Negative
32	1918	38.3	50.0	Fair	Negative
33	1672	40.7	41.1	Fair	Negative
35	1866	37.7	49.5	Good	Negative
36	1645	30.2	54.5	Good	Negative
37	1976	37.5	52.7	Fair	Positive
38	1687	38.7	43.6	Good	Negative
45	1760	38.6	45.6	Good	Negative
46	1706	31.6	54.0	Fair	Negative
52	1759	35.9	49.0	Fair	Negative
53	1662	28.2	55.4	Fair	Negative
56	1775	27.7	62.7	Poor	Negative
57	1914	39.4	48.6	Poor	Negative
58	1816	36.7	49.5	Fair	Neutral
69	1796	26.3	61.3	Poor	Positive
75	1882	53.6	33.2	Poor	Positive
80	1875	34.4	54.5	Fair	Positive
83	1815	30.9	60.0	Fair	Negative
84	1799	28.3	63.6	Fair	Negative
105	1946	33.0	62.0	Poor	Negative
106	1664	28.0	56.0	Fair	Negative
108	1991	41.7	47.7	Good	Negative
114	1975	40.6	48.6	Fair	Positive
117	1652	33.0	50.0	Good	Positive
121	1919	38.4	50.0	Good	Positive
125	1975	36.3	54.5	Fair	Negative
127	1805	32.0	55.0	Good	Positive

In Table II are listed 38 students whose food intake for twenty-four hours was between 1600 and 2000 calories. In this group the scholarship showing is 23.6 per cent. poor, 42.1 per cent. fair, and 34.2 per cent. good; while the vitality estimate shows 63.2 per cent. negative, 28.9 per cent. positive, and 7.8 per cent. neutral.

In Table III are listed 24 students whose food intake for twenty-four hours was between 2000 and 2300 calories. In this group the scholarship showing is 8.3 per cent. poor, 54.1 per cent. fair, and 37.5 per cent. good; while the vitality estimate shows 50 per cent. negative and 50 per cent. positive.

TABLE III.—STUDENTS EATING FOOD EQUIVALENT BETWEEN 2000 AND 2300 CALORIES PER DAY

Student Number.	Total calories.	Calories per kilo of body weight.	Weight in kilograms.	Scholarship.	Energy manifestation.
2	2035	31.0	65.9	Good	Positive.
9	2248	30.3	74.0	Fair	Positive.
16	2204	44.5	49.5	Fair	Negative.
24	2057	36.8	55.9	Poor	Negative.
29	2106	29.9	70.5	Fair	Negative
41	2003	42.0	47.7	Poor	Negative.
48	2247	44.6	50.4	Good	Positive.
49	2174	36.0	60.4	Good	Positive.
55	2237	46.9	47.7	Good	Positive.
59	2013	38.5	52.3	Fair	Negative.
60	2067	44.6	48.6	Fair	Negative.
65	2260	36.0	62.7	Fair	Positive.
67	2210	31.3	70.5	Good	Positive.
68	2173	39.3	55.4	Good	Negative.
81	2270	41.2	55.0	Fair	Positive.
72	2272	45.4	50.0	Good	Positive.
77	2000	35.2	56.8	Fair	Negative.
81	2285	40.5	56.3	Good	Negative.
101	2043	42.8	47.7	Fair	Negative.
103	2040	43.4	47.0	Fair	Negative.
110	2193	42.1	52.0	Fair	Positive.
118	2024	34.5	58.6	Good	Positive.
122	2203	47.0	46.8	Fair	Negative.
128	2101	34.4	61.3	Fair	Positive.

In Table IV are listed 37 students whose food intake for twenty-four hours was 2300 calories or over. In this group the scholarship showing is 2.7 per cent. poor, 54.0 per cent. fair, and 43.2 per cent. good; while the vitality estimate shows 8.1 per cent. negative, 72.9 per cent. positive, and 18.9 per cent. neutral.

For comparison these figures are tabulated below:

Groups.	Scholarship Percentage.			Vitality Percentage.		
	Poor.	Fair.	Good.	Negative.	Neutral.	Positive.
I Calories under 1600	57.6	30.7	11.5	57.7	11.5	30.7
II Calories 1600 to 2000	23.6	42.1	34.2	63.2	7.8	28.9
III Calories 2000 to 2300	8.3	54.1	37.5	50.0	0	50.0
IV Calories over 2300	2.7	54.0	43.2	8.1	18.9	72.9

TABLE IV.—STUDENTS EATING FOOD EQUIVALENT TO 2300 CALORIES OR OVER PER DAY

Student Number.	Total calories.	Calories per kilo of body weight.	Weight in kilograms.	Scholarship.	Energy manifestation.
1	2331	36.0	64.0	Fair	Negative.
4	3818	80.0	47.7	Fair	Negative.
11	2495	47.0	53.0	Fair	Positive.
12	2900	56.3	51.5	Good	Positive.
13	2660	50.4	52.7	Good	Positive.
15	2465	45.2	54.5	Good	Positive.
17	2540	47.3	53.6	Fair	Positive.
28	2411	45.7	52.7	Fair	Neutral.
39	2340	41.2	56.8	Fair	Positive.
40	2607	45.9	56.8	Fair	Neutral.
42	2790	55.8	50.0	Fair	Positive.
43	3897	73.4	53.1	Good	Neutral.
50	2746	44.8	61.3	Fair	Positive.
54	2433	39.9	61.0	Good	Positive.
61	2874	45.2	63.6	Fair	Positive.
62	2922	47.2	58.0	Good	Positive.
64	2425	45.2	53.6	Good	Positive.
66	3059	49.0	62.4	Fair	Neutral.
70	2982	59.6	50.0	Poor	Negative.
74	2559	47.3	54.0	Good	Positive.
78	2940	60.0	49.0	Fair	Neutral.
85	2310	46.2	50.0	Good	Positive.
86	2530	52.5	48.0	Good	Positive.
88	2710	38.0	71.3	Fair	Positive.
89	2922	47.2	61.8	Good	Positive.
91	3002	65.4	45.9	Good	Positive.
92	2740	45.3	58.6	Fair	Positive.
94	2490	47.0	52.9	Good	Neutral.
97	2492	48.0	50.9	Fair	Positive.
98	2911	64.6	45.0	Fair	Positive.
102	2983	53.3	55.9	Fair	Positive.
104	2632	51.6	50.0	Fair	Positive.
109	2479	54.4	47.5	Fair	Positive.
111	2597	45.5	57.0	Good	Positive.
115	2489	43.5	57.2	Fair	Positive.
116	2506	43.4	58.1	Good	Positive.
124	2575	51.1	50.0	Fair	Neutral.

We hesitate to draw hasty conclusions from such a rough study.

We recognize with you the fact that the energy exchange of any individual must be viewed to some extent in relation to the weight and height of the subject as well as to the food intake. Benedict's study has shown, however, that no direct relation can be demonstrated between these factors. With differences in the taking of food, muscular exercise, temperature of surrounding air and age eliminated, he believes it to be clear that the basal energy exchange is proportional to the "mass of protoplasmic tissue" in the body; and to differences in "stimulus to cellular activity"—two factors difficult of measurement.

In our series we find young women stout and thin, tall and short, in each group, thus suggesting no simple relation of the above factors to the results.

Heredity, with its undoubted relation to the adequacy of the internal secretions, and the "stimulus to cellular activity," must play some significant part in influencing the normal metabolic processes.

We believe, however, that our series of figures is sufficiently large to be of interest in suggesting a more careful study of this controllable factor—the diet—and the relation of food to efficiency.

Can we not educate the public in general, and women in particular, to a fuller appreciation of the practical significance of the food supply—quantitative and qualitative—in securing and maintaining a bodily and mental vigor equal to the daily demand?

Dr. Tracy and Dr. Croasdale's paper was discussed by Dr. Mary P. S. Rupert (1904). Further remarks were made by Dr. Schetky, Dr. Rogers-Easby and Dr. Welsh.

A STUDY OF THE RELATION TO TUMOR GROWTH OF FACTORS INFLUENCING GROWTH AND NUTRITION

By ELLEN P. CORSON-WHITE, M.D. (1903)

My work reports the effects on experimental tumors of those diets which decisively influence nutrition and growth.

The normal diet (house diet from the hospital) was a diet on which rats grew and gained in normal manner, bred normally, and lived the full span of life normal for their species. The second diet consisted of chemically pure protein, carbohydrate and fats with a salt mixture, a diet giving a caloric value equal to or greater than the normal diet, but from which some substance essential for growth was lacking. The third diet was oats, which has been found to increase the size of the thyroid. The fourth, eggs and milk, was one that inhibits the thyroid. These diets all definitely influenced the growth of animals.

During the last few years Mendel and Osborne, MacCollom and Davis, Funk and others have done much work in efforts to isolate these substances which change an inefficient growth-inhibiting diet into a diet capable of maintaining nutrition and stimulating growth. Many of these isolated substances have been used in the studies with experimental tumors—notably Funk's vitamines cholesterol (which, however, does not stimulate growth), fats, amino-acids, etc.

These experiments show that a very definite relation exists between somatic growth energy and tumor growth. That is, that the tumor cells agree with the normal somatic cells with respect to their laws of growth. The susceptibility of rats and mice to the transplantable tumors and the rate of growth of the transplanted tumor may be influenced both positively and negatively by proper diets.

If we could stop all normal cell growth we could doubtless stop tumor cell growth, but where any cell growth is possible we believe that experimental work and clinical findings both indicate that the tumor cell retains its power of growth longer than the somatic

cell, and it is in this respect of possessing a stronger affinity for the growth-producing substance that the tumor cell differs from the normal cell.

A comparison of the weight curves of these animals would at first sight seem to indicate that the question of tumor growth was entirely parallel with normal growth of the organism. The rat showing the most extensive growth of tumor and metastases presents a curve closely approximating the normal. But animals on normal diet with a tumor fall far below the normal. These curves illustrate marked difference in diets, which can only be interpreted as meaning that some factor of diet permitted growth of the tumor even though the animal itself failed to grow normally. The results with cholesterol show the effect of a substance not confined under the general head of protein, carbohydrate or fat upon the growth of tumors. Here out of 116 animals, 114 developed metastases on addition of cholesterol, and this tumor in our laboratory has never had a metastasis before. We do not believe that cholesterol is a factor of decisive importance because, were it the cause of metastases, it would not be possible for the normal diet animals to develop metastases in almost 100 per cent., while on a growth inhibiting diet these could develop a resistance in spite of the cholesterol present. It seems that the action of cholesterol must depend not upon its action alone, but upon its action when combined with some unknown element of food. This again supports the idea that the tumor cells obey the same laws of growth as the normal somatic cells, the only difference being the avidity for the unknown substances in the diet which are essential for cell growth, and will therefore persist in development even when the animals are losing weight.

Dr. Corson-White's paper was discussed by Dr. Berta Meine (1911).

THE VALUE OF THE ROENTGEN DIAGNOSIS, FOR THE GENERAL PRACTITIONER, IN GASTRO-INTESTINAL DISEASES

By GISELA VON POSWIK, M.D. (1911)

When the general practitioner consults a roentgenologist for gastro-intestinal work, as a rule four questions are to be asked and answered:

1. Is the diagnosis correct?
2. Is it a medical case?
3. Is it a surgical case?
4. Is it an inoperable case?

With these questions in mind, the roentgenologist, with the coöperation of the physician in charge, has to begin a *thorough study* of the *entire clinical history* and laboratory findings. It is a difficult matter in non-medical cities where patients come from small towns and villages, and the doctor says, "I don't know. Find out what is wrong."

In such a case, to my mind, the roentgenologist must make his own medical examination, starting with the mouth and teeth, following down the alimentary tract through its entirety. Also, when the patient is behind the screen, an examination should be thoroughly made of the entire anatomical make-up of the heart; the lungs should be carefully fluoroscoped from apices to base, not only as a whole, but with the aid of the long and crisscross diaphragm examination, then careful attention given to the mediastinum.

With such a start, the roentgenologist can often detect a pathological lesion which at first was thought to be stomach trouble. The first portion of food should be watched as it passes from the mouth through the pharynx, esophagus, and cardia. Observe carefully the passing of this first portion of food, notice how it tunnels through the stomach and how it reaches the fundus. The filling also must be observed carefully, after that the form, the position, the peristalsis and the time of empyting. By palpation we demonstrate pain points, adhesions, and spastic or organic

lesions. With such care and the proper fluoroscopic technic it is now possible to classify our cases in answer to the above questions.

Gastroptosis, or, as the laity call it, "fallen or dropped stomach," is an old by-word for obscure gastric lesions, used by the so-called *x*-ray specialist who does not keep abreast of the times in scientific matters. The word "gastroptosis" should be used with much caution, and one must not make this diagnosis impulsively, nor be satisfied to make such a diagnosis alone. The first thing to be considered is the position of the umbilicus, whether it be in a pendulus abdomen or in a slender patient. Our professor of clinical medicine never taught us that there was such a thing as a pendulous abdomen in gastroptosis. This condition should not be diagnosed on the examining or operating table. Men, as a rule, have their stomachs located higher than women. It must also be remembered that a long drawn stomach is a stigma of habitus asthenicus, or constitutional ptosis. In real ptosis there is not only a stretching of the greater curvature but also a ptosed pylorus. A ptosed stomach is much more movable than a normal one, with its function of emptying remaining normal. In an advanced stage of gastroptosis, we obtain atony, hypotonus, and later gastrectasis.

The stomach which is easily movable and can be pushed up and held in position by the support of a surgical corset surely does not need surgery. On the other hand, where the stomach is held in the pelvis a surgical procedure is indicated.

Now we come to the organic changes of the stomach wall. Clinical examination gives a fairly correct diagnosis of gastric ulcer, but postmortem examinations have shown us that erosions and ulcers of the mucosa occur much more frequently than we have suspected. A direct roentgen demonstration can only be given by a penetrating ulcer, but often an ulcer is indicated by a spasmodic hour-glass stomach, which pathological condition must be differentiated from the organic hour-glass stomach, or the partly organic and partly spastic hour-glass stomach. This spastic contraction in such stomachs is probably caused by the stimulation of the ulcer on the Auerbach plexus. Hour-glass stomach can be demonstrated in:

1. Ulcer.
2. Tabes dorsalis.
3. Hysteria.
4. Adhesions.
5. From outside pressure by a filled colon.
6. In tumors in the neighboring structures.

I would strongly advise that extreme caution be exercised in making a diagnosis and that one should never be satisfied with only one test meal.

Roentgen diagnosis of duodenal ulcer, especially by direct method, with careful technic, is now comparatively easy, and similar diagnosis of gastric carcinoma, it is safe to say, is far more reliable than all clinical or laboratory methods. Nowadays we can make a comparatively early diagnosis, advise a radical operation with the certainty of a cure, or pronounce the condition an inoperable one. Still another stage of carcinoma can be demonstrated where a gastro-enterostomy is still possible.

Such progress has been made in roentgenology that nowadays diseases of the pancreas can be demonstrated.

In this connection, syphilis gives the stomach a characteristic appearance.

To Pfahler and Cole belongs much of the credit for the discovery that gall-stones containing calcium can be demonstrated much more easily than we had supposed. Today authorities are claiming that 50 to 75 per cent. of the cases will show.

At the last American Roentgen-ray Society's convention, I was much interested in the remarks of Pfahler, Cole, and George, of Boston, who stated that with our present equipment 85 to 90 per cent. of gall-stone cases can be demonstrated; consequently, in these days, even a negative diagnosis reported by a roentgenologist who keeps informed in modern scientific discoveries can be considered of some worth.

The diagnostic value of the rontgen-ray in examination of the large and small intestines is also important.

1. Congenital abnormalities.
2. Acquired abnormalities.
3. Tumorous conditions.
4. Adhesions.
5. Malpositions.
6. Diverticulitis.
7. Abnormal motility.
8. Constipation: (*a*) spastic; (*b*) atonic—retention in rectum.
9. Colitis: (1) Mucous; (2) Ulcerated—(*a*) Tubercular, (*b*) Amœbic.

These differentiations in ulcerated colitis are only possible with the assistance of a clinical and laboratory history.

The *x*-ray can render valuable assistance in chronic appendicitis and its complications. Of course, in cases where the lumen of the appendix is obliterated, bismuth will not enter its lumen and the appendix structure will consequently fail to show, but many conditions can be noted in a large percentage of cases in which the appendix shadow can be observed under the fluorescent screen.

Among the conditions to be considered are:

1. Position: (*a*) retrocecal; (*b*) procecal.
2. Pain-point.
3. Kinks.
4. Presence of constrictions.
5. Size and length of lumen.
6. Adhesions.
7. Manner and time of emptying.
8. The accurate relation of the appendix to the surrounding structure.
9. Foreign bodies in the appendix.

Professor Muhsam, of Berlin, as early as 1913, demonstrated to us on the moving picture screen the live appendix shadow produced by serial plates. At that time he claimed that an appendix which is patent and allows bismuth to enter is a pathological structure, and is better taken out than left in. Groedel affirmed Professor Muhsam's contention that every appendix which permits the entry of bismuth is a diseased organ.

Dr. Case, of Battle Creek, the American authority, holds an entirely different view. He says that technically speaking it is pathological for the contents of the colon to enter the appendix. But every appendix which permits the entry of bismuth is not in need of surgical attention. He states, further, that an appendiceal shadow may be visible where the need of surgery is distinctly not indicated; for instance, in such cases as are frequently encountered when the contents of the appendix disappear by the time the colon is emptied. In this condition I must say that my own experience bears out Muhsam's theory, that a bismuth-filled appendix that will show at any time on the screen or plate is better out than in.

I wish to strongly emphasize, in conclusion, that roentgen-ray is of great value as a means of diagnosis in conjunction with other clinical tests. Physicians depending upon it too much and using it often as their only means of diagnosis will be disappointed, and they then condemn the rays as altogether unreliable.

Dr. Von Poswik's paper was discussed by Dr. David R. Bowen and Dr. Mabel S. Haines.

INFLUENZA EPIDEMIC OF 1889 AND 1890

By ELLEN E. BROWN, M.D. (1881)

The part assigned the writer is to present to you a paper giving the symptoms of influenza, or grippe, as they appeared during the epidemic of 1889 and 1890.

At this time grippe first entered this country in epidemic form.

To look backward sixteen years and pick up the threads that were woven in medical cases without a jot or note being taken at that time is not an easy task, and there may be many threads that cannot be traced, but by dint of searching the memory and with the kindness and aid of some of those that experienced the siege I trust this attempt will be worthy of discussion.

Influenza—la grippe, or (anglicized) "grip," as the disease is now generally known—is defined as an acute, infectious disease due to the invasion of a specific bacillus, the bacillus influenza, first described by Pfeiffer, as a result of his studies during the great epidemic of 1889 and 1890. It is characterized by catarrhal inflammation of the mucous membrane of the air passages and, in many cases, also of the digestive tract, also by profound nervous disturbances and by extreme debility.

Although each epidemic does not furnish precisely the same train of symptoms they all agree in some particulars, that is, the disease sets in suddenly, and attacks, most generally, the mucous membranes—usually the mucous membranes of the eyes, nose, throat, and bronchial tubes. There is also great prostration and impairment of strength out of all proportion to the other symptoms, also a slow convalescence.

In the history of influenza we find that some authors trace the disease back to the 9th century. One epidemic, limited to Germany and France, occurred in the 10th century, after which there is no record of an epidemic for 200 years.

According to Wilson, there was in 1510 a severe epidemic which covered the whole of Europe and the British Islands and was so general that not a single family and scarcely a person escaped.

During the past 400 years there have been about 70 epidemics of grippe; the last century had 13 visitations.

The most important one, previous to 1889–90, was that of 1847–48, in which more than one-fourth of the population of London were stricken and fully one-half of Paris. In 1879–80 it prevailed in Canada and to some extent in the United States.

The next severe extensive outbreak was in 1889–90. In October, 1889, it prevailed extensively in St. Petersburg. During November and December it spread to Germany, France and western Europe, appearing in London about the end of December. Cases appeared in this country about Christmas and the disease rapidly became epidemic. There were very few that escaped an attack, whole families were stricken one after another or all at once, the strong as well as the weak, the babies not escaping; Kerley reports that babies under one year are especially susceptible. This was the first general epidemic when the disease was known, and called "grip," and owing to its name, perhaps, the public thought it was a joke, and the idea was prevalent that it was a light malady, but they soon had reason to change their minds.

In this epidemic of 1889–90 the nervous and respiratory type were most prevalent, although the gastro-intestinal form was not infrequent; in a large percentage of cases the nervous symptoms predominated over all other symptoms; severe headache, usually frontal, and pain in the eyeballs were rarely absent; the pain in the head came on suddenly, was nearly continuous, with severe paroxysms; there was also stiffness and soreness over the whole body; delirium, of a mild type, was a frequent symptom even when the fever was slight. I recall a number of cases that were taken unconscious that lay in a state of coma when first attacked. There was neuritis of the different cranial nerves, some cases reported of atrophy of the optic nerve, and it was the exception where there was not loss of smell and taste.

Does any part of the nervous system escape the effect of this toxin?

Da Costa states that the severe brain symptoms, the great prostration, the annoying sweats, and also the tendency to relapses, to irregular heart action, to hyperesthesia, especially of the neck and head, were very striking in the early winter months of 1890.

It would seem apparent that in the epidemic of 1889 and 1890 the germ of influenza bacillus did not invade the different parts or organs of the body, as has been the case in later epidemics. Was there less systemic infection?

Complications were much less numerous, and, as fatalities from uncomplicated influenza are unusual, the mortality was much lower than in more recent epidemics.

Bronchopneumonia and true pneumonia, the most dangerous complications of the grip, were much more rare, as was also suppurative otitis, suppurations of frontal sinuses and the antrum of Highmore, also meningitis, nephritis, appendicitis, chronic catarrhal cases, and other complications and sequelæ which have become so numerous.

I well remember the rush of work in this epidemic; it was work night and day, the people were taken so suddenly and alarmingly sick that there were many night calls. There was little office work; people were taken so sick that they were not able to leave home; many cases began with coma.

The following cases with complications came under my care during this epidemic:

CASE I.—A woman, aged thirty years, residing in the country; strong, robust and hearty, had always enjoyed good health, was taken suddenly ill with an attack of the grip. At the outset the nervous type predominated, there was severe headache, delirium soon followed, symptoms of meningitis developed and death followed in five days.

CASE II.—A woman in her eightieth year, on the third day after an attack of the grip, developed acute hemorrhagic nephritis with retention of urine. This acute condition lasted for three weeks; she recovered gradually but completely, and died some ten years later with pneumonia following an attack of the grip.

CASE III.—An interesting case was that of a child, eight years of age, who when convalescing from an attack of the grip developed pleuropneumonia; she was desperately sick from the start. The lower and middle lobe of the right lung were involved and later the lower lobe of the left lung. At the end of the fourth week all symptoms pointed to fluid in the pleural cavity.

Was seen by a specialist. The aspirating needle was used but no fluid was found, later she was taken to the hospital where the *x*-ray was brought into use, blood examination made, etc., symptoms seemed so obscure but still pointed to pus in the pleural cavity; a second and third time the aspirating needle was used with no more satisfactory result than the first, there was a cough but not enough sputum could be obtained for an examination; the tuberculin test was not made because the parents objected to it; many physicians, among them Dr. Crozier Griffith, saw this case.

Through a full course of hygienic measures, at the end of five months, our little patient was pronounced well and at the present writing she is a robust, rosy looking child.

CASE IV.—Following a very severe case of grip, Mrs. A., a woman some thirty years of age, had an attack of pleurisy of the

right side; at the expiration of two weeks the symptoms pointed to empyema; the case was puzzling, symptoms disguised.

Dr. John B. Roberts saw the case with me—made an exploratory puncture in two directions, found no liquid. He then decided that if, in three or four days, there was no relief of the symptoms, we had a perinephritic abscess to deal with—this we found to be the case, for on the fourth day the patient was operated on in her home as she refused to go to a hospital. A sloughing mass was found, curetted away and the wound drained—the patient making a complete recovery.

During this epidemic, as I have said, there was work night and day. To keep up to the mark the writer took a tonic and extra nourishment. After six weeks of hard work I was taken suddenly ill with a general feeling of weakness, as if I couldn't raise my hands to my head; soreness and pains through the eyes commenced, followed by a general aching. With the remark, "It has struck home," I crawled into bed. The following day I dragged around and made a few calls and after that went on with work as usual. I have not been so fortunate as that each year since, and may be pardoned if I refer briefly to an attack of otitis media which followed the grip.

By the kind and careful attention of Dr. Frances Baker I am here to tell you about it. They say, "Every general practitioner should have a severe illness, and every surgeon undergo an operation; then they know how the other fellow feels."

I refer to this case to emphasize one symptom which was very pronounced, that of hyperesthesia; my head felt as if there was ice on top of it, in fact as if it were packed in ice, not only the head but the whole body had this morbidly increased sensibility, and, though the question of treatment is not being considered, I want to say that the only way there was any relief from this sensation, as if the winds from the north pole were sweeping around, was by keeping the temperature of the room extremely warm, hot fomentations were applied to the side of the head affected when paroxysms of pain occurred.

I had the same experience of hyperesthesia when recovering from meningitis or spotted fever. It was summer-time, but I lay in blankets with my hands under the covers.

The books say, and we all say, "Put your patients to bed when they have the grip;" but I would add, "Give them extra *warmth.*" Yes, extra *heat—hot* air and plenty of it.

Dr. Frances N. Baker discussed Dr. Brown's paper. Further remarks were also made by Drs. Martha G. K. Schetky, Buchanan, Weintraub, and Peck.

INFLUENZA EPIDEMIC OF 1915 AND 1916

By ELFIE R. GRAFF, M.D. (1905)

Closing the year 1915 and continuing into 1916 we have experienced another outbreak of "grippe." Of this there appears to be no reasonable doubt. Before we were really aware of the fact, the disease was prevalent at a number of widely scattered points throughout the United States. Cities and isolated communities were affected. In such an outbreak the disease is characterized by its extremely rapid spread and the immense number of persons affected. In these respects it far exceeds any other known communicable disease. In some sections of the country from 25 per cent. to 50 per cent. of the population were incapacitated. As influenza is not a reportable disease it has been difficult to obtain accurate data, but in some cities, as Detroit and Cleveland, the number of cases has been estimated at 100,000.

In connection with this present outbreak a point of interest may be noted, *i. e.*, that the progress of the disease has been in the main from west to east, rather than from east to west—the direction which has long been recognized as the one in which an outbreak usually travels.

The question has been raised as to the existence of permanent centres of influenza infection, with considerable evidence that one of these centres lies in northwest Canada. May not this present epidemic, travelling from west to east, tend to confirm this view?

Once the disease had started in New York City, convincing evidence of an actual epidemic was not slow in appearing.

Take the New York death-rate, for instance: In the month of December, 1914, there were reported 22 deaths as due to influenza, and for the same month in 1913, 29; 1912, 40; 1911, 25 or 116 in all; an average of 29 in December for four years. But for 1915 the showing is very different. In the week ending December 4, there were 10 deaths from influenza; the week ending December 11, 12; the following week, 12; then 24; and in the week ending January 1, 1916, 74. A total of 132 more deaths from influenza in December, 1915, than for the Decembers of four years preceding, and this at a time before there was any newspaper publicity concerning the "grippe" epidemic. Still the

count ran up. In the week ending January 8, 1916, there were 85 influenza deaths; the following week 109; the week ending January, 22, 86.

At the same time there was a marked increase over other years in the number of deaths in December from acute bronchitis, lobar pneumonia, bronchopneumonia, heart disease and Bright's disease. The rise in the number of deaths from these diseases is quite possibly due to the increased prevalence and virulence of the influenza bacillus. In addition there is a very striking increase in deaths from all causes.

Until much greater accuracy in the diagnosis of influenza is practiced, the incidence of other acute respiratory diseases must furnish in part an index to the possible prevalence of influenza; and this is, of course, much strengthened where there is bacteriological confirmation of the diagnosis in at least some of the suspected cases.

Dr. J. W. Trask, assistant surgeon-general in the Public Health Service, gives a statement showing the number of deaths from pneumonia noted in the weekly reports of cities, beginning with the week ended October 23, 1915, and covering the period to the week ended January 1, 1916.

In most of the cities in which the "grippe" was prevalent an increase in the number of deaths certified as due to pneumonia was noted. For this reason it was thought that the reported deaths from pneumonia might be interesting as indicating among other things the probable dates of the onset of the influenza in various localities. Dr. Trask's tabulation is of special interest in showing the increase of pneumonia deaths. Beginning with the latter half of October there is a steady increase. There are few fluctuations in the rising wave, which by the middle of November is very definitely marked. Regarding these pneumonia figures as a reliable index, it is quite clear that influenza was at work for some weeks before its activity was recognized. Later, as its prevalence became known, it was noted that the influenza incidence was quite consistantly greatest in the cities in which the pneumonia deaths increased most strikingly.

The Public Health reports indicate that this severe epidemic followed eleven months in which the pneumonia incidence was below the normal.

The pneumonia death-rate for the past twenty years averaged 20 per 10,000; the highest rate, 24 per 10,000, occurring in 1910 and the lowest, 15.5 per 10,000, was that of last year. In the first eleven months of 1915 there was a low death-rate of 13.8 per 10,000, but in December the pneumonia death-rate were 34.5 per 10,000.

The reports from Chicago show the same startling increase in pneumonia death-rate during December: Before December 1, 50 per week; by December 11, 77 per week; by December 18, 108 per week; by December 25, 205 per week; by January 1, 302 per week.

Influenza is an infectious disease, due to a specific organism—the bacillus influenza of Pfeiffer. There are local inflammatory manifestations and constitutional symptoms. In their local activity the bacteria evidently produce a toxin which is taken up in the general circulation. This appears to be an important feature of the disease process and upon it the well-marked constitutional symptoms depend. In addition to this toxemia, there is a bacteremia as well—living bacilli in the circulation. The combined effect of this circulatory poison is a more or less severe illness with a searching out of the individual's "weak spots." This means an almost endless variety in the clinical picture and many cases in which the diagnosis will be greatly obscured, especially if we adhere strongly to the preconceived notions of the disease.

The epidemic of this winter has varied greatly as to severity in different localities, and the reports of types and characteristics have been as varied.

In part of New York the symptoms showed similarity to true influenza of the respiratory type, but so decided a lack of reports of intestinal types as to make the diagnosis of influenza doubtful. Other reports show the usual prostration; but contrary to true influenza, convalescence was short even when the mortality was high. Others report prolonged convalescence with comparatively mild cases.

At the suggestion of the Health Commission of Boston a special study of 27 cases of various types was made by Dr. John Ceconi. As his observations fairly represent the majority reports in the more severely affected communities, as all the 27 cases came under his personal observation, and, also, as the clinical findings in all of these cases were supplemented by a bacteriological study by Dr. George P. Sanborn, of the Boston City Hospital, I have taken Dr. Ceconi's report as best presenting the typical cases of this winter's epidemic.

Quotation from Dr. Ceconi's Article

"The nose and throat specialists report a number of complications of the ear, nose and throat following in the wake of the influenza this winter.

"Nasal conditions, particularly sinusitis have accompanied the attacks and hemorrhages have been more than usually frequent, but, while severe, they have been easily controlled.

"Involvement of the middle ear and mastoiditis have been prevalent. Dr. G. W. Boot, of Chicago, reports nine cases of mastoiditis of hemorrhagic type—in all of which the mastoid cells were filled with dark clotted blood. Dr. Boot also notes a marked edema of the accessary cavities of the nose and two cases of edema of the larynx where intubations or tracheotomy were necessary.

"Concerning the throat, reports are varied. Some statistics give a remarkable absence of tonsillitis, while others show an unusual number of cases of tonsillitis and also cases resembling streptococcic sore-throat."

As I have already given Dr. Ceconi's report of cases in full, the report of Dr. Sanborn's bacteriological study of the same cases is of unusual interest and is as follows:

"Bacteriological study of 50 cases diagnosed as "grippe" by physicians of New York City was conducted at the Research Laboratory of the Department of Health by Dr. Anna W. Williams, assistant director of the laboratory. From each case specimens were examined both microscopically and by means of cultures. Many specimens showed large numbers of several different bacteria, and this accounts for the fact that the following summary yields a total greater than the number of specimens examined:

"Streptococcus, 26 cases.
Pneumococcus, 19 cases.
Micrococcus catarrhalis, 18 cases.
Bacillus influenza, 9 cases.
Staphylococcus pyogenes, 9 cases.
Bacillus capsulatus, 6 cases.
Bacillus bronchisepticus, 2 cases.
Vincent's bacillus, 1 case."

The *New York Health Bulletin* also comments that "it is interesting to learn that a somewhat similar investigation, conducted some months ago, showed influenza bacilli in only 1 specimen out of 20 examinations. In the present instance this germ was present in 9 out of 50 specimens—a proportion which indicates that it also played a part in the recent outbreak.

The general examinations made by the Columbus Medical laboratory during the period show, in percentage of organisms found in the sputum, much the same results:

Staphylococcus pyogenes, 75 per cent.
Streptococcus, 87 per cent.
Pneumococcus, 57 per cent.
Influenza bacillus, 29 per cent.
Micrococcus catarrhalis, 45 per cent.
Friedländer's bacillus, 20 per cent.

In reporting these examinations Dr. Adolph Gehrman concludes that this present epidemic started with staphylococcus and streptococcus, or a mixed pus infection, and was soon complicated by a combination of pneumococcus and micrococcus catarrhalis. He believes, however, that a good percentage of the epidemic is influenza, because he found 25 per cent. of the influenza bacilli in the examinations. These were noted in sufficient numbers to be recognizable in the sputum, and during all of the last year he does not remember finding one definite case of influenza bacilli from the city.

That the conditions of this epidemic were due to a specific organism in some cases and to mixed infections in others, seems clearly indicated.

Clinically it would appear to be a highly communicable condition, spread by mild ambulatory carriers, increasing in severity as it progresses, sparing neither age nor sex, and conferring on its victims no immediate immunity, but disappearing rapidly after two to three months' duration.

No consideration of an acute infectious disease can afford to pass over the topic of vaccination and serum therapy. The case of a "cold" offers an enticing field. Isolate and identify the responsible organism and then administer the appropriate vaccine or serum. This has been done more or less and some favorable reports have been made. Such treatment has been used in the early stages, in the delayed cases and sequelæ, and also to confer immunity on those not yet effected. The determination of the exact value of such lines of treatment is, of course, difficult, because of the fact that most cases of "colds" recover very quickly in any case. Recognition of any real value from the treatment would be more reliable in the late cases and sequelæ.

It has been impossible to obtain much definite information on the use of vaccines, but Dr. Joseph F. Biehn, of Chicago, has reported his work with 146 cases of this latest epidemic. (Quotation.)

"As it was realized that the disease was spreading with alarming rapidity, and that it is largely a contact disease communicated from one person to another, many efforts were made to have the public recognize that it rests largely with them to determine the limitations of the spread of the disease.

In New York City a large number of pamphlets were printed and distributed, explaining how to prevent the disease by control of coughing, sneezing, and spitting.

Poster stamps were provided at cost to health officers, civic organization leagues, and public schools.

A contest for health posters was held in the elementary schools and the poster taking first prize represented two children with handkerchiefs outspread above the following:

> "If you use these for the sneezes
> You will stop the dread diseases."

Special "Don't Spit" cards were distributed by conductors of the Transit Co., and commissioner Emerson organized a special health squad to enforce the anti-spitting laws, 1233 persons being arrested, only 49 of whom were discharged, a fine being imposed for the first offence, and jail sentence for repeated violation.

Similar campaigns were carried on in other communities, Dayton, Ohio, setting an excellent example by regulating the cleaning and ventilation of all public buildings and conveyances.

Sweeping was to be done only with windows open wide and was to be followed by a thorough wiping of floors, woodwork, furniture, etc., with a disinfectant. Street cars were to be so cleaned once in every twelve hours.

Every building was to be ventilated for ten minutes after any gathering before it was re-occupied; the temperature in stores, theatres, etc., was not to exceed 68°.

Will we soon forget the disastrous effect of this recent epidemic and slip back into the faulty hygienic conditions which are at least a contributing factor, or shall we go on to a better preparedness which will forever prevent another outbreak of influenza with its heavy toll of victims of youth, infancy, and old age?

REPORT OF A CASE OF MENINGITIS, PROBABLY OF INFLUENZAL ORIGIN

By JULIA HARDIN, M.D. (1904)

The case I have to present this morning is one of meningitis which followed an attack of influenza. The patient was admitted to the West Philadelphia Hospital during Dr. Peck's service, and it is through her courtesy that I have the privilege of reporting it.

Katherine R., aged fourteen years, was admitted to the West Philadelphia Hospital on January 27, for convalescence from grip.

Family History. Her mother is well. Her father was operated on for tubercular peritonitis, and after some months made a recovery.

Two sisters and two brothers are well. One younger brother had an attack of cerebrospinal meningitis six months ago in the Presbyterian Hospital and recovered.

Personal History. The patient had chicken-pox five years ago. She menstruated first six months ago. Her periods have been normal.

Her present illness began January 18, with an attack of influenza; she was treated at home for four weeks and sent to the hospital, because her family thought her condition was not improving.

Her temperature on admission was 102.4°; pulse 110; her tongue was heavily coated. She complained of constant severe headache. Her pupils were moderately dilated, with slight internal strabismus of right eye. Her heart, lungs, and abdomen were normal.

Her condition remained practically unchanged, with the exception of increasing severity of her headache, and some stiffness of the muscles of her neck. The temperature had a daily range of several degrees from 98° to 102.8°. She was nauseated at times, and it was difficult to get her to take nourishment. Kernig's sign was present, but not pronounced.

On February 10 the patient was reported delirious at times, although when I saw her each day she seemed fairly bright mentally.

Her headache radiated from the occipital region to the neck, and extended down her spine to the lumbar region.

On February 18 a lumbar puncture was done, and 10 c.c. of spinal fluid were withdrawn. This was under slightly increased pressure. The withdrawal of the fluid was not followed by any amelioration of symptoms.

The patient each day became progressively worse. Her spine was rigid, and her head somewhat retracted. She had involuntary stools and urine and was unable to swallow. Her pulse was irregular, and breathing shallow. She gradually developed into stupor, from which she could not be aroused. Her pupils were widely dilated at this time, and eyes converged inward.

On February 23 Dr. Van Gasken saw her in consultation and suggested, as a last resort, intraspinal injection of magnesium sulphate; 4.5 c.c. of a 25 per cent. solution of sterile magnesium sulphate was injected between the 2d and 3d lumbar vertebræ, after first withdrawing 10 c.c. of spinal fluid.

During the night her pulse became very weak and irregular, and she was given camphor and other stimulants hypodermically.

Twelve hours after the magnesium sulphate was given the patient was conscious and able to swallow; the pulse remained irregular and breathing shallow. She was conscious most of the time, was restless, and cried out when she was moved.

On February 28, three days later, a second intraspinal injection was given. Her pulse was again irregular, and she was difficult to arouse.

During the next forty-eight hours there was marked improvement in her general condition. The pulse and respiration were regular and she lost her pinched, moribund expression. She was able to take nourishment and was entirely conscious. The rigidity of her spine was diminished, and the patient said *yes* and *no*.

Three days later she was given a third injection. She responded when spoken to; was very irritable, but appeared entirely rational.

She made a gradual recovery from this time. For several weeks she had difficulty in speaking and had word aphasia. Her internal strabismus became less pronounced, but is slightly apparent at the present time on April 30. She got out of bed, but was unable to walk alone, because of stiff knees and muscle atrophy.

After daily massage and many painful efforts she was finally able to take a few steps between two nurses, and on May 9 she was discharged from the hospital and able to walk home.

Laboratory Report by Dr. Whaland. Her urinalyses were practically normal at all times. There was at times a trace of albumin.

Blood Count Feb. 4.	*Cerebrospinal fluid Feb. 18.*	*Cultures from nasal Cavity.*
Red blood cells, 4,300,000; white blood cells, 15,600.	Clear, reduced Fehling's solution, negative for microörganisms including tubercle bacilli.	Streptococci (short chains), staphylococci, spore-bearing bacilli.
Feb. 10: red blood cells, 4,740,000; white blood cells, 16,400; differential count—polymorphonuclears, 80 per cent.; large lymphocytes, 6.3 per cent.; small lymphocytes, 10.6 per cent.; transitionals, 2.8 per cent.; eosinophiles, 0.3 per cent.	A guinea-pig was inoculated with this fluid and remained healthy for two weeks, when it died suddenly. The heat in the laboratory was accidentally turned off, and the guinea-pig probably died from pneumonia. Dr. Whaland found the lungs congested but otherwise healthy.	Wassermann test taken Feb. 21, negative.
Feb. 24: red blood cells, 4,000,000; white blood cells, 16,200; hemoglobin, 80 per cent.	She sectioned portions, including the mesenteric glands, and found no pathological changes.	Von Pirquet taken a few days earlier, negative.
		Cerebrospinal fluid on Feb. 27:—
		Noguchi's butyric acid test for proteids showed increased amount. Cell count per cubic centimeter: white-blood cells, 160; erythrocytes: 240. Differential count of leukocytes: polymorphonuclears, 78 per cent.; large lymphocytes, 15.6 per cent.; small lymphocytes, 16.9 per cent.

Dr. Buchanan's Report on the Eyes. Paresis of right external rectus muscle. Left eye, while more convergent than the right, is better able to follow objects; convergence may be due to weakness. Subsiding optic neuritis. Small flame-shaped hemorrhage in left eye. Neuritis of sixth nerve.

Dr. Hardin's paper was discussed by Dr. Van Gasken.

HEALTH INSURANCE

By MISS BETSY LIBBY
SOCIETY FOR ORGANIZING CHARITY

EVERY day we are affected in new ways by the war now being waged in Europe. One of the most noticeable has perhaps been our increased interest in and knowledge of history, life, customs, government and social institutions of the European countries. Not the least among these is the more common knowledge among us of European social legislation of the last twenty-five years in behalf of the working classes, and particularly that branch of legislation called "Social Insurance."

Social insurance, as the term is generally used, includes:

1. Insurance against accidents.
2. Insurance against sickness.
3. Insurance against old age and invalidity.
4. Insurance against death, or, as it is usually called, "life insurance."
5. Insurance against unemployment.

It is a social device to meet the contingencies causing economic insecurity in the laboring classes by joint responsibility and coöperative action of employees, employers, and the State.

In America we have been individualists, and our forefathers wrote their individualistic creed into our Federal and State constitutions. That philosophy met the needs of our country when it was predominently agricultural. Under modern conditions, with population concentrated in large cities where industry is organized on a large scale, great masses of the people are unable individually to control the conditions under which they must live and labor. We are forced to recognize that there are social as well as individual duties and that we must have social as well as individual action to meet these needs. Such social legislation Europe has had for over twenty-five years, while we in America are only beginning to think about it. Rapidly changing conditions in the development of our country has forced this upon our

attention. In a majority of the States we now have one form of social insurance—insurance against industrial accidents, commonly called "Workingmen's Compensation." We also have the beginning of a second form of social insurance, that is "Health Insurance," as we call it in America, putting the emphasis upon the constructive side of the legislation, following the British title instead of the German, "Sickness Insurance." During the last year, at least three legislatures have introduced bills regarding health insurance—New York, New Jersey and Massachusetts—and several other States are preparing to introduce similar bills in the legislatures next year. Therefore, it seems timely to present to such a group as this a brief consideration of health insurance—the need for it in our country, its aim, and its probable effect upon our community and social life. Also it seems to be a common meeting-ground for the physician and the social worker. We are both familiar with the misery and distress caused by disease among the working class—its individual and social effects. Daily, we are seeing physical suffering from lack of proper medical care—the misery and disease caused by loss of income when the bread-winner is ill, the lowering of standards of living as a result of prolonged sickness and even temporary illness, the lessening of resistance through the lack of both medical care and of sufficient income, and disease thus becoming the predisposing cause of subsequent illness. With all of these we are familiar—a truly vicious circle too well known to us all.

In the United States there are approximately 30,000,000 wage-earners. It is estimated that 3,000,000 persons are sick at any one time in this country, and that each of the 30,000,000 loses, on account of sickness, on an average of nine days yearly. According to the United States Commissioner of Immigration, a fourth or a third of the wage-earners in the United States are earning $10 a week or less. Picture what even a nine days' loss of income means in one of these families, and, when we realize that 25 per cent. of all cases of illness last over four weeks, we see the impossibility of the average wage-earner meeting this situation by himself. The meagre savings of those workmen who are fortunate enough to have any are inadequate for an emergency of this sort, and the laborer who has nothing to fall back on must either turn to charity, or without help his family exists miserably, their standard of living is lowered and they furnish recruits for the army of the disheartened and ineffective.

The New York Charity Organization Society has found that in 75 per cent. of the families applying to them for aid the distress was due directly or indirectly to sickness.

If any of us have felt that such an emergency as sickness, or any of the others grouped under social insurance, should or could be met by the individual, we must begin to see how impossible it is for the great mass of our wage-earning people under present industrial conditions in this country. Social action, therefore, seems necessary, and for this emergency of sickness, health insurance is one way at least of solving the problem and, to my mind, a most desirable one. The American Association for Labor Legislation has published a proposed Act for health insurance based on a careful study of European experience. Let us examine this Act and see what its provisions are.

Insurance Should Be Compulsory. The Act provides for compulsory insurance for every person employed in the State at manual labor, under any form of contract, except home workers and casual employees, and for every other employee whose remuneration does not exceed $100 a month, and voluntary insurance for the groups of persons who for practical reasons are now out of the compulsory system.

How the Expense of the Insurance is to be Met. It provides that the expense of this insurance shall be met by contributions from employees, employers and the State. The State shall contribute one-fifth of the total expenditure for benefits. One-half of the balance shall be paid by the employer and one-half by the employee, except that if the earnings of the insured fall below $9 a week the shares of the employee, employer and State shall be proportioned according to a fixed schedule.

Management of Insurance Funds. The draft adopts the District Mutual Associations as the insurance carriers, that is, local and trade associations democratically governed by employers and employees under public supervision.

Benefits Under This Act. It provides for the following benefits for its insured members: medical, surgical and nursing attendance, medicines, surgical supplies, cash benefits, maternity benefits, funeral benefits, medical and surgical attendance and medicines for dependent members of their families.

Medical Benefits. The Act states that medical, surgical and nursing attendance and treatment and all necessary medicines shall be furnished from the first day of sickness during the sickness, but not to exceed twenty-six weeks from the beginning of the disability in any one case. That the insured person shall be supplied with all necessary medicines, surgical appliances prescribed by the physician, not to exceed $50 in cost in any one year. Hospital or sanitoria treatment and maintenance may be furnished instead of all of the other benefits.

CASH BENEFITS. In regard to cash benefits, it specifically states that benefits shall be paid beginning with the fourth day of the disability. They shall equal two-thirds ($66\frac{2}{3}$ per cent.) of the weekly wages of the insured member, and shall be paid only during the continuance of the disability and shall not be paid to the same person for a period of over twenty-six weeks in any consecutive twelve months.

MATERNITY BENEFITS. A weekly maternity benefit, equal to the regular sick benefit, shall be payable to women insured under the Act, for a period of eight weeks, of which at least six shall be subsequent to delivery on the condition that the beneficiary abstain from gainful employment during the period of payment. It also provides for the wives of insured men, as well as women insured under the Act, all necessary medical, surgical and obstetrical aid, materials and appliances.

FUNERAL BENEFITS. The funeral benefit to be provided has as its maximum $50.

Briefly, these are the important points of the Act. Let us examine them carefully.

First of all, that the insurance must be compulsory. To us Americans the idea of restricted individual liberty that is implied in "compulsion" is somewhat distasteful, but European experience has demonstrated the inability to bring the lowest strata of the working class, where disease is most frequent and economic need caused by disease is greatest, into any insurance system without compulsion. The majority of European countries have reached this decision, among them Germany, Austria, Hungary, Luxemburg, Norway, Servia, Great Britain and Rumania. With Great Britain and Norway as well in this group, we need not fear so much that it is utterly unapplicable to democratic America.

The next point to be emphasized is that of joint responsibility, that is, a mutual organization of the employer and employee with the State contributing and supervising. With the State now assuming as its function the guardianship of health, its share of the burden of financing health insurance seems consistent with the rest of its program for maintaining public health and the prevention of disease. The share of industry in causing sickness is well recognized and, as in Workingmen's compensation insurance, the expense can be calculated as a part of the cost of production. The cost of health insurance to the employee in Germany has been estimated as not exceeding $\frac{1}{2}$ of 1 per cent. That the employee should contribute toward his own insurance will seem reasonable to most of us, unless we are socialists. No new burden will be imposed upon him as the United States Bureau of Labor and

Statistics has found that at least 4 per cent. of the wage-earner's income now goes for care during sickness or for burial insurance. Germany has found that the total amount required to meet the expense of health insurance is not over 4 per cent., the same amount the workingman is now paying in our country. If this is shared by the State and the employer, the actual cost to the workingman would be considerably lessened. Basing this on the German experience, the total contributions for a man earning $600 would be $24 a year, or $2 a month. When the employer and State share this expense with the employee in accordance with the percentage proposed in the Act above, the State would pay 40 cents (one-fifth), the employer would pay one-half of the balance, 80 cents, and the employee an equal amount, so the proposed plan of joint responsibility will lower the amount the workingman is now paying for sickness and burial insurance, and will assure him more adequate medical care and at the same time a cash benefit sufficient to tide him over a period of distress without applying to charity.

One of the most significant features in the Act is that it recognizes that in sickness proper medical aid is no less important than financial assistance, providing as it does that it shall include medical attendance to members of the family.

With an increasing emphasis on the importance of pre-natal care, the maternity benefit, both medical and cash, is a most noteworthy feature of the Act. When we realize that at least 15,000 women in America lose their lives annually through childbirth, and that some 60,000 children die annually from disease of early infancy—one-half from premature birth and one-half from congenital debility, which in many cases could be overcome by proper care, we are impressed with the necessity for this provision and its importance for health conservation.

The cash benefit to insured wage-earners includes a cash maternity benefit for women insured under the Act, and will mean to the workingman a continued and regular income in times of illness, maintaining a standard of living, keeping his self-respect; justice instead of charity.

As social workers we are particularly interested in the funeral benefits and its provisions. Extravagance in funerals among the poor is a daily spectacle with us, and has grown to be a serious economic problem. As yet, all efforts to overcome it seem to be unsuccessful; $200,000,000 a year is now being spent by the American workingmen for industrial insurance on the basis of five and ten cents a week payments, and results in no larger gain to them than an extravagant funeral. The assumption of this

burden by the Health Insurance Associations ought to help establish one fairly uniform standard, the existence of which would not mean loss of social caste and might be a means of cutting down by more than one-half the present waste in funerals.

In such a brief paper it will not be possible to discuss the arguments against health insurance, but it does seem worth while to summarize what we can expect of health insurance in this country, what its effect will be on industry, on the working class, wages, the attitude of employer and employee toward each other, on poor relief, and on public health. A few brief quotations from writers who have studied the European situation, showing the effect of health insurance in Europe during the past twenty-five years, will give some measure of what we can expect in the United States.

In regard to industry, Dr. Spiecker, chairman of the League of German Employers' Association, says,[1] "It is perfectly evident that we have secured higher efficiency in our industries, due to increased efficiency of the workers, all brought about by relieving our workers from worries and distress on account of sickness, injury, superannuation, and invalidity."

Dr. Shadwell, a recent English writer, says, "No one can doubt that the general well-being of the working classes in Germany, which is strikingly visible to the eye and confirmed by writers' statistics, in spite of many unfavorable circumstances, is in a large measure due to the insurance system."

The late Professor Henderson, says,[2] in regard to wages, "That wages have risen more rapidly in Germany than in any other country," and implies a direct relation between the rise in wages and social insurance.

In regard to the feeling between employers and workmen, Dr. Kaufman, President of the Imperial Insurance Department, writes,[3] "As a result of our social insurance, the feeling between employers and workmen is growing more friendly right along, and there is much less industrial strife here than elsewhere," and on this same subject, Messrs. Frankel and Dawson, in a study made for the Sage Foundation, write,[4] "The custom of representatives of employers and of workmen serving upon common boards in sickness insurance societies has done much to forward conferences on business matters between representatives of trade unions and employers under conditions which made for fair discussion of the grievances of union workmen."

[1] "Accident Prevention and Relief," Messrs. Schwedtmer and Emery, p. 279.
[2] "Industrial Insurance in the United States," p. 6.
[3] "Accident Prevention and Relief," Messrs. Schwedtmer and Emery, p. 277.
[4] "Workingmen's Insurance in Europe," Messrs. Frankel and Dawson, p. 158.

In regard to its effect upon public health, Dr. Zacker, writes,[1] "In the sphere of a systematic and deliberately devised prophylaxis, the German system will celebrate its greatest triumphs, since it will gradually go beyond the narrow limits of mere sickness and accident prevention, and will develop the entire wide field of national hygiene. It is not too much to claim already that the insurance legislation has developed into a great system of social hygiene which has produced a marked improvement upon the entire health of the community."

It is in this field of prevention that we can expect most of social insurance perhaps. The "safety first" movement has grown very largely out of workingmen's compensation, and we have reason to believe that "health first" will be the movement that will come as a result of health insurance in the United States.

Miss Libby's paper was discussed by Dr. Florence E. Kraker.

[1] Social Insurance in Germany," W. Harbutt Dawson.

THE UNMARRIED MOTHER AS A SOCIAL PROBLEM[1]

By MISS GERTHA WILLIAMS

Mary came to us for a psychological examination in November, 1914. She was then four months pregnant. Mary was born in the country, just outside of Philadelphia. When she was six years old her mother died and shortly afterward her father married again. The stepmother was a woman of questionable moral character who, while not actually cruel to Mary, neglected her and opposed her in everything. With no home training, without the sympathy, love and high ideals which really make a home, with only the education which a district school affords, Mary grew up. At the age of nineteen she came to Philadelphia. She obtained work with a "beauty doctor" and, after working there for two or three weeks, became pregnant. The employer was suspected, but when a search was made for him it was found he had left the city and consequently no court proceedings were possible. Mary had no realization of the seriousness of the situation, did not appreciate the consequences and was wholly indifferent about the future. She had even no interest in the as yet unborn baby. But when the baby boy was born in April, 1915, her maternal affection was at once awakened and she is now devoted to her baby. A home was found for her with an aunt in Philadelphia, where the home conditions are very satisfactory. Mary is now working as a cashier, earning seven dollars a week, and her aunt is caring for the baby. She will probably marry a young man who has known her for some time and who knows her past history. The social prognosis is favorable.

Mary's case is in a sense typical of many cases of illegitimate pregnancy. The combination of abnormal home conditions and inadequate home training is almost a constant factor.

Every year in Philadelphia eleven hundred of these illegitimate

[1] The cases cited in this paper are cases examined at the Psychological Clinic of the University of Pennsylvania. For permission to use them I am indebted to Dr. Francis N. Maxfield, Assistant Director of the Clinic. All names are fictitious.

babies are born. This means that one out of every thirty-nine births is illegitimate. Probably the rate is even higher than this, as the attempt on the part of the mother to conceal the illegitimacy of her pregnancy obscures many cases. The problem is not peculiar to Philadelphia, as statistics from other cities in which studies have been made show that from 2 to 4 per cent. of the births are illegitimate. Every year several millions of dollars are spent caring for the mothers and babies. As about one-third of these illegitimate babies ultimately become dependent, illegitimacy looms large as a social problem.

Early in this paper I wish to differentiate illegitimacy from cases of promiscuous sexual intercourse. Most of these girls have never had promiscuous sexual relations nor have they received financial remuneration. Illegitimacy is not a problem of prostitution nor even of immorality. In many cases the sexual irregularity of the girls has been limited to one occasion. Even when these relations have extended over a period of time it is usually with one man, often with men whom they expect to marry. Resistance has been gradually broken down and consent reluctantly given, sometimes in the belief that this relation will permanently attach the men's affections to themselves. The greater majority of these girls have been "otherwise moral."

In the Boston conference on illegitimacy 21 cases were selected for more detailed study. Of these 21 cases only one girl had a normal home life in the sense of both parents living and both parents respectable. In Dr. Bryant's report of the cases of illegitimacy handled by the Municipal Court of Philadelphia, in only 31 out of 129 cases could the home be called a normal one. A drunken father, an unsympathetic stepmother, a mother who is employed during the day, or no mother at all, is the history of these girls. When there is a mother she is ignorant, the discipline in the home is inadequate or unintelligent. There is an almost total lack of home training. The home conditions have been adverse to the development of high ideals or motives of conduct.

In addition to the inadequacy of the home training the education of these girls has been restricted. They have left school as soon as the regulations of compulsory school education would permit, and many times before, rarely reaching a grade higher than the fifth or sixth. There has been no sex instruction or such vague instruction as "not to let men take advantage of you."

Going out to earn a living with inadequate home training and restricted education these girls are industrially untrained and inefficient. They make frequent changes in occupation and do not take up their work with any idea of becoming proficient in it.

As the analysis of occupations shows the majority of them are in the group of unskilled labor, nearly half being domestics. The unprotectedness of domestic service has been blamed for the large number of unmarried mothers coming from that class, but one must take into account also the fact that a girl who is totally untrained can usually obtain a position as a domestic when other occupations are closed to her. In other words, it is the fact that these girls are untrained which should be emphasized rather than the unprotectedness of the employment.

Enthusiastic social reformers have led the public to believe that feeble-mindedness looms large as a causal factor in illegitimacy. Careful diagnosis of these cases leads one to question this conclusion and to doubt whether illegitimacy is a problem of feeble-mindedness. In a recent exhibit on feeble-mindedness in this city I read a statement something like this: "Of 105 unmarried mothers in an almshouse in Pennsylvania 100 are feeble-minded." I have no doubt that statement is literally true, but, unfortunately, the general public has not a sufficient knowledge of statistical methods to properly interpret it. The correlation in this case is not between illegitimacy and feeble-mindedness but between residence in an almshouse and feeble-mindedness. When a girl of child-bearing age is placed in an almshouse it almost amounts to a diagnosis of feeble-mindedness by society. It is dangerous to attempt to give any figures as to the percentage of feeble-mindedness in cases of illegitimacy. I wish to suggest tentatively the figures 20 per cent. subnormal and 10 per cent. feeble-minded, emphasizing the fact that further investigation in this field is necessary before careful figures can be obtained.

Another fact which strikes one in any study of these cases is the extreme youth of the girls. The majority of them fall within the ages seventeen to twenty-one, 60 per cent. of them under twenty-one. It causes one to suspect that adolescence itself has some relation to the problem; that the storm and stress accompanying the remarkable new growth and new experience of puberty has some definite connection with sex problems. The activity of the essential sex glands begins relatively suddenly and the rapid growth at the beginning of puberty involves an upheaval of the whole body, an upheaval which is mental as well as physical. The changes in metabolism at adolescence produce a profound emotional upheaval even to the extent of a total change in the personality and character of the individual. The adolescent girl loves excitement, she is ambitious, and craves new experiences. Emotionally she is unstable. She is "touch and go" to any stimulus. Moderation is impossible to her, her life is highly

colored, all ups and downs. The higher mental qualities, such as self-control, judgment, and foresight, develop late, so that for a long time the adolescent girl is receiving impulses which she has not the judgment to control.

The adolescent girl is plastic and is peculiarly sensitive to her environment. Under proper environmental conditions adolescence offers big possibilities. Social instincts unfold, it is the age of sentiment and religion, when the foundations of domestic, social and religious life are established. Even the romantic tendency, the desire to be attractive, the love of excitement and developing ambition are not alarming with wise guidance, but are exceedingly dangerous in an improper environment. The adolescent particularly needs a stable environment and healthy interests. Unfortunately this is just the time when the adolescent girl goes out to work and additional burdens and temptations are put upon her.

What I have tried to bring out, so far, is that these girls are not inherently different from other girls. Under other conditions and in a different environment they would have developed like other girls. Nature intended that they should have a normal self-development, but inadequate home training and discipline and restricted education have thwarted the plans of nature.

To especially emphasize the effects of environmental conditions I wish to present at this point another case history: Mabel came to us in May, 1915, one month after the birth of her baby. She was nineteen years old. Mabel is of normal mentality, but of a colorless type, without striking physical or mental characteristics. She is very irresponsible and easily led. Her mother died when she was fifteen and Mabel has been keeping house ever since for her father and a brother of twenty-one. The home is clean, cozy and home-like. Mabel is domestic in her tastes and has always had an excellent reputation in the neighborhood. She met Harold, the father of her child, a year before at a church supper. Mabel's father was working nights and Harold came to see Mabel after her father went to work. They were not engaged. Sexual intercourse occurred only once, in July. Mabel refused to see Harold afterward. The baby was born in April, 1915. The case was taken to court and a court order of $1.50 a week for fourteen years was made on Harold. But now Harold cannot be found. Mabel's father and brother are doing all in their power to help her. She is devoted to her baby.

The etiological factors in this case are the home situation resulting from the mother's death and the father's occupation taking him away from the home in the evening. The colorless character of the girl is a factor, but ought not to be too much stressed, as

there are many girls of her type who under adequate guidance are model daughters. The sex instruction which would probably have protected Mabel was given at the hospital after she became pregnant. Her experience has protected her against a repetition of the offense and the social prognosis is favorable, but it is unfortunate that proper instruction could not have been given her earlier and so saved her from so tragic an experience.

The problem of dealing with illegitimacy is a two-fold one: There is the immediate problem of the social treatment of the individual unmarried mother and the larger problem of prevention. In a way one cannot separate these aspects of the problem, as wise social treatment of individual cases leads to prevention.

If our belief that illegitimacy is due chiefly to environmental causes is true, then treatment must centre in the home itself, and any movement for social betterment which has for its object improvement of the home conditions is affecting directly or indirectly the problem of illegitimacy. The work of the housing commission, minimum wage, workmen's compensation law, free clinics, more adequate care of the feeble-minded, more wholesome facilities—all these contribute to the solution of the problem of illegitimacy. I shall not go into these aspects of the problem, but merely wish to point out that here illegitimacy merges with the broader problem of social betterment and equal opportunity for all.

Better sex instruction of both men and women is certainly needed. Complete ignorance in sex matters might be a safeguard to the adolescent, but it is not a choice between ignorance and knowledge, but between misinformation and the correct information, and of these two the correct information is certainly the greater safeguard. Many of these girls get their first sex instruction from the social worker when they come to the hospital pregnant.

The double standard of morality affects the problem of illegitimacy in that the greater social risk under the double standard falls upon the woman, and so there are not as strong restraining influences placed upon the man as upon the woman. Any change in standards of morality must necessarily be slow, and must come about through education in its broadest sense, especially education in matters of sex. A tendency to hold the man responsible as well as the woman is evident from the fact that the court is more and more recognizing the economic responsibility of the man in cases of bastardy.

The social treatment of the individual unmarried mother

involves a careful study of the girl herself. Here a mental examination is essential to a wise handling of the case. As the mental examination of these cases is particularly difficult, the examination should be made by a person especially trained in psychological methods. I must deplore the wide-spread use of the Binet–Simon scale for this purpose, valuable as it is for children under ten for statistical purposes. But it is much less accurate above the age of ten, owing to the fact that individual differences here become more manifest, making any attempt to grade on an age scale very difficult. Moreover, many of these girls have had little educational opportunity and it is easy to confuse ignorance with mental deficiency. Their vocabulary is limited, their fund of general information slight, the environment restricted and narrow. One must consider in making a diagnosis the opportunity for self-development, and often the reports of parents and employers and a personal interview with the girl herself are a safer basis for diagnosis than so-called intelligence tests.

This mental examination should be made not only in cases of suspected feeble-mindedness but for vocational guidance and as a help in the solution of other practical social problems. The clinical psychologist ought to be able to materially help in finding out what the girl is best fitted for, whether she is able to bear the economic burden of supporting the child, whether she can be made a fit mother, what the social prognosis is, etc.

At this point the problem must be taken up by the social worker. Probably no other type of case so much needs the advice and sympathy of a friend as the unmarried mother. Even her own family is likely to turn against her. The mental state of the expectant mother makes her particularly susceptible to influence. The social worker must assist in adjusting strained home relations, must develop sympathy and a helpful attitude where none exist. She must give instruction in prenatal hygiene, give advice as to the care of the child. She must consider the advisability of marriage to the father of the child. Forced marriages are never a solution and too often end in the domestic relations court. She must assist the unmarried mother in obtaining employment or sometimes in securing better training for a trade. The economic burden of a child to support is a heavy one and the future of both mother and child, moral as well as physical, depends often upon the mother's getting a job with adequate pay.

Lack of time makes it impossible for me to go further into the social service aspect of the problem. I wish especially to emphasize the intricacy of the social worker's problem, the fact that each girl offers a different problem, so that individual and not collective

treatment is necessary, and also the fact that the social worker who deals with this kind of case needs broad vision, a wide knowledge of social facts and social causation, besides infinite patience, sympathy, and tact.

The following case-history illustrates the valuable work done by the social worker in rehabilitating a home: Rebecca came to us two months pregnant. Her mother was a decent, respectable, but not very intelligent and very much overworked woman. The father was alcoholic and brutal. When Rebecca came to us her case was recognized as already hopeless and the mother was urged for the sake of the younger children to place Rebecca in an institution and to leave her husband. Both of these suggestions she refused to take. Matters went from bad to worse. A year later Rebecca was living as a prostitute in New Jersey. The house was raided and Rebecca committed to a reformatory. The mother's eyes were at last opened. She has left her drunken husband. For the sake of the younger children she does not allow Rebecca to come home even on a visit. The home is much improved and it is probable that the younger children will have a better chance than Rebecca did.

The responsibility of the father of the child must not be forgotten. It too often is. Legal action for support is almost always advisable, and the Municipal Court of Philadelphia is obtaining convictions in a large percentage of cases tried in court, and a weekly support order is being made on the father for fourteen years. Of course the amount of these orders is inadequate, averaging as they do less than two dollars a week, but even this little gives the mother a better chance of keeping her child with her. Even with this court order the greater economic burden still rests on the mother, as statistics show that her income, even with a court order, is less than the income of the father of the child. Fixing responsibility in these cases, beside being a matter of social justice, is going to have its effect upon prevention, because of its restraining influence upon the man and its ultimate effect upon public opinion.

The emphasis in these cases must be put upon future self-development of the mother and her responsibility for and care of the child, and not upon her past irregularity of conduct. Of course society must register its protest against illegitimacy. We are not willing to lower in the least our ideal of the home. Our attitude toward illegitimacy has its influence upon the problem itself. To be too lenient toward this offense would be to increase the problem and defeat our own ends. But are we not punishing illegitimate pregnancy rather than irregular sex relations? Are

we not blaming the girl for "getting caught"? The immoral girl who has had promiscuous sexual relations, and the girl who through knowledge of contraconception or abortion conceals the evidence of her conduct escapes with little social stigma compared to the unmarried mother who, for the sake of her child, is willing to face the world in her disgrace. It is the constructive side and not the reactionary which we should emphasize. For the sake of the illegitimate baby as well as the unmarried mother we ought to help her to become a fit mother, to develop her in motherhood.

Finally, further study of the problem of illegitimacy is necessary. This year the Philadelphia conference on illegitimacy has begun the study of the problem and is to continue its researches next year. Many other cities are beginning this study. We must approach the problem not as a moralist or sentimentalist but with the attitude of a scientist. We must give up the idea that these girls are sexually irregular because they want to be, and accept rather the scientific basis of morality—that the law of causation holds just as rigidly in social phenomena as in the material world. We must have a vision broad enough to look beyond the facts of individual cases for the causes of patho-social conditions in order to discover general principles of prevention and social treatment.

Discussion

Major Cowden (of the Salvation Army): I have been intensely interested in Miss Williams' most able paper, and as I listened there floated across my vision hundreds, it seemed to me, just hundreds of women with whom I have had to deal, illustrating over and over again what she has said. There come to me, in the work which I do, women who might be classified under three heads: (1) The young, innocent girl who has been deliberately taken advantage of by designing men; (2) the girl who starts out without any thought of wrongdoing, but who comes under a stronger personality than herself, and goes down; (3) the feeble-minded and abnormal woman; and she is the biggest problem at the present time.

To illustrate the first class of girl, I may speak of a young girl, fourteen years of age, with her hair hanging down her back, who was brought to me by her sister with an indefinite tale to which I did not pay much attention, knowing that the truth would come out. After a few days an uncle of the child called us up and said, "Is so and so with you?" He said the matter had just come to his knowledge. We discovered that this girl's mother died, the father had not done right, the uncle had attempted to be a father to her.

The child's married sister, who had been divorced from her husband lived with the uncle, and the little girl was pregnant by this husband. The sorrow, the terrible conditions revealed when I took the child into court, were so dreadful that the court officers, used to almost everything, were horrified, and they held that man without bail. This is an illustration of an innocent girl taken advantage of by a designing man. I might add that the girl is in a shocking physical condition from disease.

Another case will serve to illustrate the second class, that of the girl who starts out, so to speak, to keep company, without any thought of doing wrong, but who, through lack of proper training, lack of proper education along sex hygiene lines, finds herself pregnant. Much of the talk about the needs of sex hygiene does not amount to very much. This young girl leaves her home town and comes to us. The young man is the son of a doctor and a young man of whom we might expect better things. He simply disappeared. The intelligence, the background of industry and good family, showed in the fact that with her little child this young woman left us yesterday for a position in domestic service. She is a young woman qualified for a business position and had a letter from the firm she was previously with asking her to resume her position at $60 a month, and she prefers the position of domestic with her child at $3 a week. This is the caliber of many of the girls who are coming to us. This emphasizes that which Miss Williams said, that the girls do not want to do wrong, but that it is the meeting with the stronger personality. I am persuaded more and more from my practical dealing with these girls that they are not trained. We all agree that the child's training should begin with the grandparents. The social problem we are facing today is due to hereditary tendencies the result of lack of training in sex hygiene. When I say to a girl, simply and bluntly, as I must say it to many of them, "Don't you know that you shouldn't behave in this way; don't you know that you should not allow these improprieties?" They say, "Why, no; everybody does it," and they look at you with eyes so big in surprise. I ask, "Didn't anybody ever tell you that men and women are constituted so differently, that what to you is but a simple thing, may arouse all the passion in a man?" They say, "Oh, no; I never knew anything like that." It seems to me that we as women, that mothers as mothers, and fathers as fathers, should be diligent to teach these things as we have opportunity. There are old-fashioned mothers who will not talk to their girls of these things. They are the dearest mothers, but will not talk to their girls because they have not been trained to do so. Therefore, I feel that it is up to the women who

are doing social service, and have a love for them, to do this work. When all women wake up to this fact much will be done in the teaching of sex hygiene. Granted that the teaching of a child should begin with its grandparents, we have an argument for the training of the young women of today.

The care of the illegitimate child is an important point. Unless we are going to take proper care of the illegitimate child those coming after us will have greater problem than we. The world at large does not accept an illegitimate child as it does the legitimate. That which I am striving for is that the child may be given the chance to be a better man or woman than its parents. It should be helped to avoid the mistakes the father and mother made. This is a question that has appealed to me tremendously, because these mothers do just as the young woman of whom I told you—take a position where they can keep the child with them. When it is two or three years of age and they can no longer keep the child with them, the child is sent to one of several homes from which it is sent for adoption, or kept in the home without being adopted. Soon the mother is jealous because she will not have her place taken by another. We are doing just a little work to prevent this situation by having a department in our work where we keep the children after they are three years of age. The mothers are allowed to keep in close touch with them and we stimulate the best effort of the mother.

With these few points which impressed me particularly I will leave the discussion for others.

Miss Williams' paper was discussed by Dr. Ella W. Grim and Dr. Frieda E. Lippert. Further remarks were made by Dr. Charlotte M. Abbey, Dr. Bertha Lewis, Drs. Schetky, Weintraub, and Gibson.

"PRENATAL CARE" AS CONDUCTED IN THE WOMAN HOSPITAL AND THE WEST PHILADELPHIA HOSPITAL FOR WOMEN

By LIDA STEWART-COGILL, M.D.

Looking backward at least twenty-five years, I find that t graduates of this College have been doing pre-natal work all th time, even though not so-called.

Our professor, Dr. Anna E. Broomall, culled from artic written by the most prominent and able obstetricians in this a foreign lands knowledge which gave us what equalled a po graduate course abroad.

We students had to listen very closely to the lectures and ta very full notes, for, to our dismay and consternation, we discover it was impossible to find in any text-book much that she had giv us. Why could we not find it in the text-books? Because t authors of these recent articles had not had time to have their n methods and treatment printed in book-form.

Fully five years after I graduated, which was in 1890, book age came to my office trying to sell me the latest book on obstetri and upon consulting it I would find we had been taught so-call new methods at College, years before.

We were trained in the great importance of studying a watching carefully the expectant mother through her wh pregnancy—of making elaborate pelvic measurements, freque and most careful urinary tests for the amount of urea excret and amount of urine voided in a given time, presence of album etc. True, we did not know the value of blood-pressure tests, b we did know the value of proper renal function, and have progressed very far, in this day, in knowing the cause of eclampsi I confess our treatment of eclampsia has changed somewhat b our reliance upon the importance of elimination has remained.

One has only to remember the beginning of Barton Dispensa to realize how far-seeing Dr. Broomall was in knowing the gre importance, the practical experience of delivering and caring fo

certain number of confinement cases before graduation would be to the student.

So keenly did Dr. Bromall realize this that she carried on for several years, at her own expense, the Barton Dispensary, before the College took it over for obstetricial teaching. It was many years later before other medical colleges had similar advantages for the students.

Yes—our graduates were far in advance of most students in their knowledge of modern obstetrics and I am proud to say they still are, thanks to our present professor of obstetrics.

Being a member of the pre-natal division of the "Baby Welfare Association" I come in close touch with some of our most prominent obstetricians and cannot help being impressed with the fact that women physicians are doing much more pre-natal work than the men, the latter seem to feel and realize the importance of this work but are handicapped by the fact that many of the foreigners object to their wives being examined by men doctors and cannot see the importance of antepartum care, so that much of this work is turned over to a nurse. While this is much better than no instruction to the mother, it is not so satisfactory as though done by a physician.

I am asked to speak particularly of work of this kind which is being conducted by the Woman's Hospital and the West Philadelphia Hospital for Women. Both of these hospitals have a pre-natal clinic. The one at the Woman's Hospital is called the Maternity Clinic and has been in existence for years; the one at the West Philadelphia Hospital for Women, the Obstetrical Clinic.

We encourage the patients to register early in pregnancy and they are under our direct supervision until delivered and for the following six weeks, at the end of which time if they need further treatment they are referred to the proper dispensary clinic.

This is an improvement over the former method of keeping them under the direction of the gynecological clinic until about due, as it gives the chief in maternity better opportunity of knowing the patient's actual condition through the entire pregnancy; the postpartum care until the end of six weeks is also an advantage. We are endeavoring to have patients for antepartum care come to pre-natal clinic in the mornings and the postpartum cases to the afternoon clinics. These clinics are held twice daily at the Woman's Hospital and once a week at the West Philadelphia Hospital for Women.

Talks to mothers are given weekly at both hospitals—on importance of proper diet, hygienic living, care of nipples, care of infant,

etc., also instructions in how to avoid miscarriage and how to prepare for the confinement.

The talks are much better attended at the West Philadelphia Hospital than at the Woman's Hospital, probably because we have so many Jews and they, of all races, are eager for knowledge. The other races have to be educated to the fact that *they* need these talks.

At both hospitals we encourage the early registration in pregnancy and have them return every two weeks for observation; frequent urinalyses are made; pelvic measurements and blood-pressure taken; every patient is tested for gonorrhea, and if it be present is placed upon active treatment; all cases of suspected syphilis have the Wassermann test.

I have not had time to make up statistics, but could quote case after case that has been directly benefited by this prenatal care, and we have been able to nearly eliminate ophthalmia, of any degree of severity, from our nursery.

Now, of course, we should adopt the "follow-up" system and send notices from time to time to all mothers delivered, to report how they are feeling and see if childbirth has weakened them in any way, and should not be satisfied merely to get "baby" into the world and "mother" out of the maternity in two weeks; also the babies should be referred to our pediatricians to be kept well.

As our pre-natal work goes on and we discourage the mating of the unfit—mentally, morally and physically—we will have fewer and fewer macerated infants, fewer and fewer cases of eclampsia, fewer and fewer cases of forceps, fewer and fewer cases of ophthalmia neonatorum, until possibly we may reach a stage similar to that reported by the Jewish Maternity—in which they stated they had 812 cases in the past year without a single abnormal case. I am afraid I would not enjoy such a term of service, but from the point of view of prevention it would be a great achievement.

"PRENATAL CARE" AS CONDUCTED IN THE COLLEGE HOSPITAL

By ALICE WELD TALLANT, M.D.

We have a double problem, dealing as we do with two very different groups of people. The patients up-town come readily to us for advice. As to the work down-town, it is quite another story. The patients are largely of the foreign population. They say, "Too much examination; I have six children; why come to be examined?" It is difficult to make them understand that we are working for their good. With these people we find a great need of mothers' meetings; not the need so much of patients coming to the dispensary, as the need of some one going from the dispensary to teach them. Such work, however, is very time-consuming.

We have been very fortunate in having the coöperation of wet nurses. Ideal conditions in the problem of syphilis in our prenatal work would, of course, require the routine taking of the Wassermann test. This is a pretty difficult problem as yet, because patients cannot be made to understand it well and they very naturally object to the manipulation. It is a great mistake to go too fast and so defeat the very ends for which we are working. Practically every clinic giving statistics on stillbirths states that 25, 35 or 40 per cent. of the stillbirths are macerated fetuses. While not all syphilitic, a large majority are.

The Social Service work in our prenatal work is of very great importance. It must be determined whether the patient has food, and whether your directions can be followed and full coöperation secured. It is perfectly true that prenatal work has been carried on in this institution for many, many years, and I do not mean at all to suggest that we are doing anything new. We are only carrying out the work with a little more emphasis.

It must be more than a coincidence that for eight years, when we were carrying out prenatal care as best we could, our stillbirth rate was about 22 per thousand. Now for three years of prenatal care as fully organized as we know how to do it, this rate has dropped from 22 to 16 per thousand. That is just about one-third the stillbirth mortality for the city as a whole. I would emphasize most heartily what Dr. Cogill has said of the follow-up part of prenatal work.

NB 517

J. HOLZER